

به نام خدا  
خلاصه سوابق و تجربیات علمی - پژوهشی



### الف) مشخصات فردی:

نام و نام خانوادگی: حمیدرضا نجاتی

دانشیار مهندسی مکانیک سنگ، دانشگاه تربیت مدرس

تلفن: ۰۲۱-۸۲۸۸۳۳۸۰ همراه: ۰۹۱۲۴۳۶۱۸۴۱

آدرس الکترونیکی: [h.nejati@modares.ac.ir](mailto:h.nejati@modares.ac.ir)

آدرس پستی: تهران، دانشگاه تربیت مدرس، دانشکده فنی و مهندسی، بلوک

۶، طبقه سوم، اتاق ۳۰۶

---

### ب) تحصیلات:

دکتری مهندسی معدن، مکانیک سنگ، دانشگاه تربیت مدرس، (۱۳۹۲ - ۱۳۸۸)

کارشناسی ارشد مهندسی معدن، مکانیک سنگ، دانشگاه تربیت مدرس (۱۳۸۷ - ۱۳۸۵)

کارشناسی مهندسی معدن، استخراج معدن، دانشگاه صنعتی اصفهان (۱۳۸۵ - ۱۳۸۱)

---

### د) سوابق اجرایی

رئیس بخش مهندسی معدن دانشگاه تربیت مدرس، (۱۴۰۱ تا اکنون)

رئیس انجمن مکانیک سنگ ایران (۱۴۰۲ تا اکنون)

معاون آموزشی دانشکده فنی و مهندسی، دانشگاه تربیت مدرس (۱۴۰۱-۱۳۹۹)

مدیر گروه مکانیک سنگ، دانشکده فنی و مهندسی، دانشگاه تربیت مدرس (۱۴۰۱-۱۳۹۸)

عضو هیات مدیره انجمن مکانیک سنگ ایران (۱۳۹۳ تا اکنون)

1. **Nejati, H.R.**, Ahmadi, M., Hasheomolhosseini, H., (2012); Numerical analysis of ground surface vibration induced by underground train movement. *Tunnelling and Underground Space Technology*. (29); 1-9.
2. Ghazvinian, A., **Nejati, H.R.** and Saemi, M., (2012); Reliability and Uncertainty of Prediction of Dynamic Elastic Constants in Reservoir Rock. *Journal of Canadian Petroleum Technology* 51 (3): 198-204.
3. Ghazvinian A., Sarfarazi V., **Nejati H.R.**, Hadei M.R., (2011); “The shear behavior of planar non-persistent joint”, *Journal of Mines Metals and Fuels* Vol. 59, PP. 131-137.
4. **Nejati H.R.**, Ahmadi M., Hasheomolhosseini, H., Hayati, M., (2012) “Probabilistic Analysis of Ground Surface Vibration Due to Train Movement, a Case Study on Tehran Metro Line 4”, *Geotech Geol Eng* 30:1137–1146.
5. **Nejati H.R.**, Ahmadi M. Hasheomolhosseini H., (2012) An investigation on the ground motion parameters and seismic response of underground structures, *Earthquake science*, 25(3): 253-261.
6. Ahmadi, M., Rahnama, A., **Nejati H.R.**, (2012) Seismic response of underground openings: with an insight into Siah Bisheh Caverns, *Journal of Seismology and Earthquake Engineering*, Vol. 14, No. 1.
7. Saemi M., **Nejati H.R.**, Bahremandi M. (2013) In-situ stress determination using limited geomechanical data in south of Iran. *Journal of Mines Metals and Fuels* Vol. 61, PP. 19-30.
8. Ghazvinian A., Azizian F., **Nejati H.R.**, (2013) Failure analysis of transversely isotropic rocks – a numerical study. *Journal of Mines Metals and Fuels* Vol. 61, PP. 43-53.
9. Ghazvinian A., **Nejati H.R.**, Sarfarazi V., Hadei M.R., (2013) “Mixed mode crack propagation in low brittle rock-like materials”, *Arabian Journal of Geosciences*, 6: 4435 – 4444.
10. Sarfarazi V., Ghazvinian A., Schubert W., Blumel M., **Nejati H. R.**, (2014) Numerical Simulation of the Process of Fracture of Echelon Rock Joints. *Rock Mechanics Rock Engineering*. 47:1355–1371.
11. **Nejati H.R.**, Ghazvinian A., (2014) Brittleness Effect on Rock Fatigue Damage Evolution. *Rock Mechanics Rock Engineering*. 47:1839–1848.
12. **Nejati H.R.**, Ghazvinian A., Moosavi A., Sarfarazi V., (2014) On the Use of the RMR System for Estimation of Rock Mass Deformation Modulus, *Bulletin of Engineering Geology and the Environment*, 73:531–540.
13. Sabri M., Ghazvinian A., **Nejati H.R.** (2016) Effect of particle size heterogeneity on fracture toughness and failure mechanism of rocks. *International Journal of Rock Mechanics and Mining Sciences* 81, 79-85.
14. Azinfar, M. J., Ghazvinian, A. H., & **Nejati, H. R.** (2016). Assessment of scale effect on 3D roughness parameters of fracture surfaces. *European Journal of Environmental and Civil Engineering*, 1-28.
15. Sarfarazi, V., Ghazvinian, A., Schubert, W., **Nejati, H. R.**, & Hadei, R. (2016). A new approach for measurement of tensile strength of concrete. *Periodica Polytechnica Civil Engineering*, 60(2), 199-203.
16. **Nejati, H. R.**, & Moosavi, S. A. (2017). A new brittleness index for estimation of rock fracture toughness. *Journal of Mining and Environment*, 8(1), 83-91.
17. Nazerigivi, A., **Nejati, H. R.**, Ghazvinian, A., & Najigivi, A. (2017). Influence of nano-silica on the failure mechanism of concrete specimens. *Computers and Concrete*, 19(4), 429-434.

18. Haeri, H., Sarfarazi, V., Shemirani, A. B., Gohar, H. P., & **Nejati, H. R.** (2017). Field Evaluation of Soil Liquefaction and Its Confrontation in Fine-Grained Sandy Soils (Case Study: South of Hormozgan Province). *Journal of Mining Science*, 53(3), 457-468.
19. Najjigivi, A., Nazerigivi, A., & **Nejati, H. R.** (2017). Contribution of steel fiber as reinforcement to the properties of cement-based concrete: a review. *Computers and Concrete*, 20(2), 155-164.
20. Imani, M., **Nejati, H. R.**, & Goshtasbi, K. (2017). Dynamic response and failure mechanism of Brazilian disk specimens at high strain rate. *Soil Dynamics and Earthquake Engineering*, 100, 261-269.
21. Kim, H. M., Lee, J. W., Yazdani, M., Tohidi, E., **Nejati, H. R.**, & Park, E. S. (2018). Coupled Viscous Fluid Flow and Joint Deformation Analysis for Grout Injection in a Rock Joint. *Rock Mechanics and Rock Engineering*, 51(2), 627-638.
22. Nazerigivi, A., **Nejati, H. R.**, Ghazvinian, A., & Najjigivi, A. (2018). Effects of SiO<sub>2</sub> nanoparticles dispersion on concrete fracture toughness. *Construction and Building Materials*, 171, 672-679.
23. Moayedifar A., **Nejati H. R.**, Goshtasbi K., Khosrotash M. (2019). Seismic fragility and risk assessment of an unsupported tunnel using incremental dynamic analysis (IDA) *Earthquakes and Structures* 16 (6), 705-714
24. Haeri H., Sarfarazi V., Zhu Z., **Nejati H. R.** (2019). Numerical simulations of fracture shear test in anisotropy rocks with bedding layers *Advances in concrete construction* 7 (4), 241-247
25. Rooh A., **Nejati H. R.**, Goshtasbi K. (2019). A new formulation for calculation of longitudinal displacement profile (LDP) on the basis of rock mass quality *Geomechanics and Engineering* 16 (5), 539-545
26. **Nejati H. R.**, Azinfar J. (2019). Effect of Rock Fracture Filling on Mode I and II Fracture Toughness. Vol. 8, No. 17, Pages 19-25
27. **Nejati, H. R.**, Nazerigivi, A., Imani M. (2020). Monitoring of fracture propagation in brittle materials using acoustic emission techniques-A review. Vol. 25, No. 1 15-27.
28. Ghadernejad, S., **Nejati, H.R.**, Yagiz, S., (2020). A new rock brittleness index on the basis of punch penetration test data. *Geomechanics and Engineering* 21 (4), 391-399.
29. Nateghi, Goshtasbi, K., Nejati, H. R., (2020). Determination of plastic concrete behavior at different strain rates to determine Cowper-Symonds constant for numerical modeling. *Computers and Concrete* 26 (3), 227-237.
30. Arsham Moayedifar, **Hamid Reza Nejati**, Amin Nazerigivi, (2020) A practical approach for seismic risk assessment of underground structures: A case study of Iranian subway tunnels. *Earthquake Science* 32 (2), 64-71.
31. A Dadi-givshad, M Ahmadi, **HR Nejati**, Study of Damaged Zone around Circular Opening Using Acoustic Emission Technique. *Journal of Mining and Environment* 11 (2), 433-451

32. F Rastegar, **HR Nejati**, A Ghazvinian, MR Hadei, A Nazerigivi. On Applicability of Some Indirect Tests for Estimation of Tensile Strength of Anisotropic Rocks. *Journal of Mining and Environment* 11 (3), 711-720.
33. K Rostami, JK Hamidi, **HR Nejati**, (2020). Use of rock microscale properties for introducing a cuttability index in rock cutting with a chisel pick. *Arabian Journal of Geosciences* 13 (18), 1-12.
34. R Nateghi, K Goshtasbi, **HR Nejati**, (2020). Coupled Effects of Confining Pressure and Loading Rate on the Mechanical Behavior of Plastic Concrete. *Journal of Materials in Civil Engineering* 32 (10), 04020292.
35. MR Hadei, N Akbarlou, **HR Nejati**, (2020). A new development cracked chevron notched direct tension method for determining the mode I fracture toughness of rocks. *Theoretical and Applied Fracture Mechanics* 110, 102811.
36. R Nateghi, K Goshtasbi, HR Nejati, (2021). Prediction of shear strain induced by blasting waves in surface structures based on coupled frequency, velocity, and displacement effects. *Journal of Vibration and Control* 27 (9-10), 971-984.
37. E Ghorbani, S Ghadernejad, D Emami, **HR Nejati**, (2021). Estimating groundwater inflow into Dorud-Khorramabad railway tunnel using analytical and numerical methods. *International Journal of Mining and Geo-Engineering* 55 (1), 31-39
38. A Mahmoodzadeh, M Mohammadi, SN Abdulhamid, **HR Nejati**, (2021). Predicting construction time and cost of tunnels using Markov chain model considering opinions of experts. *Tunnelling and Underground Space Technology* 116, 104109.
39. A Mahmoodzadeh, M Mohammadi, SN Abdulhamid, **HR Nejati**, (2021). Prediction of duration and construction cost of road tunnels using Gaussian process regression. *Geomechanics and Engineering* 28 (1), 65-75.
40. A Mahmoodzadeh, **HR Nejati**, N Rezaie, AH Mohammed, (2022). Gaussian process regression model to predict factor of safety of slope stability. *Geomechanics and Engineering* 31 (5).
41. AB Ghazi, A Jamshidi-Zanjani, **H Nejati**, (2022). Utilization of copper mine tailings as a partial substitute for cement in concrete construction. *Construction and Building Materials* 317, 125921.
42. A Mahmoodzadeh, M Mohammadi, H Farid Hama Ali, **H Nejati**, (2022). Prediction of safety factors for slope stability: comparison of machine learning techniques. *Natural Hazards* 111 (2), 1771-1799.
43. A Mahmoodzadeh, M Mohammadi, S Ghafoor Salim, **H Nejati**, (2022). Machine Learning Techniques to Predict Rock Strength Parameters. *Rock Mechanics and Rock Engineering* 55 (3), 1721-1741.
44. A Mahmoodzadeh, HR Nejati, M Mohammadi, HH Ibrahim, M Khishe, (2022). Prediction of Mode-I rock fracture toughness using support vector regression with metaheuristic optimization algorithms. *Engineering Fracture Mechanics* 264, 108334.

45. M Imani, HR Nejati, K Goshtasbi, A Nazerigivi, (2022). Effect of brittleness on the micromechanical damage and failure pattern of rock specimens. *Smart Structures and Systems* 29 (4), 535-547.
46. AB Ghazi, A Jamshidi-Zanjani, H Nejati (2022). Clinkerisation of copper tailings to replace Portland cement in concrete construction. *Journal of Building Engineering* 51, 104275.
47. A Mahmoodzadeh, HR Nejati, M Mohammadi, (2022). Optimized machine learning modelling for predicting the construction cost and duration of tunnelling projects. *Automation in Construction* 139, 104305.
48. N Babanouri, M Asadizadeh, HR Nejati, (2022). Suggesting new protocol to determine point load strength index of rocks. *Arabian Journal of Geosciences* 15 (13), 1-7.
49. A Mahmoodzadeh, HR Nejati, HH Ibrahim, HFH Ali, AH Mohammed, (2022). Several models for tunnel boring machine performance prediction based on machine learning. *Geomechanics and Engineering* 30 (1), 75-91.
50. A Mahmoodzadeh, HR Nejati, M Mohammadi, AS Mohammed, (2022). Numerical and Machine learning modeling of hard rock failure induced by structural planes around deep tunnels. *Engineering Fracture Mechanics* 271, 108648.
51. M Noori, G Khanlari, V Sarfarazi, B Rafiei, HR Nejati, W Schubert, (2022). Experimental test and numerical simulation of the effect of brittleness on the microfracturing of sandstone. *Bulletin of Engineering Geology and the Environment* 81 (8), 1-27.
52. A Mahmoodzaden, HR Nejati, M Mohammadi, HH Ibrahim, S Rashidi, (2022). Meta-heuristic optimization algorithms for prediction of fly-rock in the blasting operation of open-pit mines. *Geomechanics and Engineering* 30 (6), 489-502.
53. A Saedi, A Jamshidi-Zanjani, AK Darban, M Mohseni, H Nejati, (2022). Utilization of lead–zinc mine tailings as cement substitutes in concrete construction: Effect of sulfide content. *Journal of Building Engineering* 57, 104865.
54. A Mahmoodzadeh, HR Nejati, M Mohammadi, HH Ibrahim, S Rashidi, (2022). Forecasting face support pressure during EPB shield tunneling in soft ground formations using support vector regression and meta-heuristic optimization algorithms. *Rock Mechanics and Rock Engineering* 55 (10), 6367-6386.
55. A Mahmoodzadeh, HR Nejati, M Mohammadi, HH Ibrahim, (2022). Assessment of wall convergence for tunnels using machine learning techniques. *Geomechanics and Engineering* 31 (3), 269-276.
56. A Mahmoodzadeh, HR Nejati, M Mohammadi, HH Ibrahim, M Khishe, (2022). Developing six hybrid machine learning models based on gaussian process regression and meta-heuristic optimization algorithms for prediction of duration and cost of road. *Tunnelling and Underground Space Technology* 130, 104759.

57. A Mahmoodzadeh, HR Nejati, M Mohammadi, HH Ibrahim, S Rashidi, (2022). Forecasting tunnel boring machine penetration rate using LSTM deep neural network optimized by grey wolf optimization algorithm. Expert Systems with Applications 209, 118303.
58. A Saedi, A Jamshidi-Zanjani, M Mohseni, AK Darban, H Nejati, (2023). Mechanical activation of lead-zinc mine tailings as a substitution for cement in concrete construction. Construction and Building Materials 364, 129973.
- 

### ز) طرح های تحقیقاتی

۱. بررسی عمق برداشت اصولی و فنی در معادن شن و ماسه آبرفتی استان تهران، سازمان صنعت، معدن و تجارت استان تهران، (۱۴۰۰-۱۳۹۹)
  ۲. تحلیل دینامیکی تونل های راه آهن در برابر بارهای زلزله و قطار، مرکز تحقیقات راه آهن، ۱۳۸۷-۱۳۸۶
  ۳. مدلسازی گسترش ترک در پوشش نهایی تونل های راه آهن تحت بار سیکلی قطار، مرکز تحقیقات راه آهن، (۱۳۹۳-۱۳۹۲)
  ۴. تحلیل پایداری تونل های راه آهن در شرایط مختلف ژئوتکنیکی، مرکز تحقیقات راه آهن (۱۳۹۵)
- 

### ح) سوابق تدریس:

- ✓ ارائه دروس کارشناسی ارشد، دانشگاه تربیت مدرس (۱۳۹۲ تا اکنون)
  - ✓ مکانیک سنگ پیشرفته، مبانی طراحی و تحلیل فضاهای زیرزمینی، ژئومکانیک پیشرفته، طراحی و اجرای فضاهای زیرزمینی، روشهای تحکیم، ناتراواسازی و آببندی فضاهای زیرزمینی، روش های حفاری سنتی
  - ✓ ارائه دروس دکتری، دانشگاه تربیت مدرس (۱۳۹۲ تا اکنون)
  - ✓ تحلیل قابلیت اطمینان سازه های زیرزمینی
  - ✓ آمار و احتمالات پیشرفته
- 

### ط) سوابق کاری

۱. همکاری با شرکت مهندسين مشاور ايمن سازان، قرارگاه خاتم الانبیا (۱۳۸۹)
۲. همکاری با مشارکت پاسیلو - آموت سپهر در پروژه خط ۲ مترو شیراز (۱۳۹۱ - ۱۳۹۰)
۳. همکاری با شرکت مهندسين مشاور رهساز طرح، طراحی تونل ارتباطی خط ۴ و ۶ مترو تهران (۱۳۹۵-۱۳۹۴)
۴. همکاری با شرکت مهندسين مشاور ژرفا ایستایی، طراحی مغار نیروگاه سد راغون، تاجیکستان (۱۳۹۴)
۵. همکاری با شرکت مهندسين مشاور سترگ ابنیه جاوید (ساج) (۱۳۹۵ تا اکنون)