

## HADI FARHADIAN, PHD

University of Birjand  
Faculty of Engineering  
Department of Mining

Pardis campus, University of Birjand Blvd,  
Avini Blvd, Birjand, Iran. P-o Box: 97175/615  
E-Mail: [farhadian@birjand.ac.ir](mailto:farhadian@birjand.ac.ir)  
Tel.: (+98) (56) (32016474)



CV QR Code

## CURRICULUM VITAE

**DATE OF BIRTH** 09 January 1985  
**NATIONALITY** Iranian  
**CURRENT POSITION** Assistant professor at the University of Birjand, Iran.  
**LANGUAGE SKILLS** Persian and English  
**ORCID** 0000-0002-9948-0731  
**RESEARCHERID** L-8274-2017



- PROFESSIONAL PROFILE**
- Mine Engineer with focus on applied geology (hydrogeology, rock mechanics, geo-mechanics, resource geology, environmental issues)
  - Strong background in geological and numerical modeling
  - Research projects related to fractured rock and porous media, groundwater flow, rock stability, rock mechanics.
- EDUCATION**
- Amirkabir University of Technology (Tehran Polytechnic), Mining Exploration Engineering, **Doctor of Philosophy**, Oct 2011 – Feb 2016  
**Ph.D Thesis: Tunnel Inflow Assessment in Fractured Media**  
GPA 18.21 on scale of 20
  - Institute of Geology and Paleontology, Applied and Environmental Geology, University of Basel, Basel, Switzerland, **Visiting scholar**, Sep 2014- Jun 2015
  - Amirkabir University of Technology (Tehran Polytechnic), Mining Exploration Engineering, **Master**, Oct 2007 - Dec 2009  
**M.Sc Thesis: Evaluation of groundwater flow into Amirkabir tunnel**  
GPA 17.55 on scale of 20
  - University Of Birjand, **Bachelor**, Mining Exploration Engineering, Oct 2003 - Jul 2007  
**B.Sc Thesis: Coal Engineering**  
GPA 16.75 on scale of 20
  - NODET (National Organization for Development of Exceptional Talents), **High School Diploma**, Mathematics and Physics, Oct 1999 - Aug 2003  
GPA 18.5 on scale of 20

# HADI FARHADIAN, PHD

University of Birjand  
Faculty of Engineering  
Department of Mining

Pardis campus, University of Birjand Blvd,  
Avini Blvd, Birjand, Iran. P-o Box: 97175/615  
E-Mail: [farhadian@birjand.ac.ir](mailto:farhadian@birjand.ac.ir)  
Tel.: (+98) (56) (32016474)



CV QR Code

- 
- EMPLOYMENT**
- Head of Innovation center at the University of Birjand, Iran, Since 2019.
  - Assistant professor at the University of Birjand, Iran, Since 2017.
  - Research assistance at University of Basel, Switzerland, 2016-1017.
  - PhD candidate at Amirkabir University of Tehran (Tehran Polytechnic), 2011-2016.
- HONORS AND AWARDS**
- **Top Student**, 2011-2016  
Amirkabir University of
  - **Academic Scholarship, PhD, Amirkabir University of Technology**
  - **2<sup>ed</sup> Rank**, Sep 2011  
PhD entrance exam (Sanjesh Organization)
  - **Academic Scholarship, MSc, Amirkabir University of Technology**
  - **12<sup>th</sup> Rank**, Sep 2007  
MSc entrance exam (Sanjesh Organization)
  - **Top Student**, Jun 2007  
University of Birjand (BSc)
  - **Honor Student**, Mar 2003  
2<sup>ed</sup> ,Young Scholars of Mathematics Conference
- PROFESSIONAL AFFILIATION**
- Department of Mining and Metallurgical Engineering, Amirkabir University of Technology (Polytechnic Tehran), Tehran, Iran
  - Faculty of Engineering, University of Birjand, Birjand, Iran
  - Institute of Geology and Paleontology, Applied and Environmental Geology University of Basel, Basel, Switzerland
- PROFESSIONAL SERVICES**
- Reviews for international scientific journals, including *Hydrogeology Journal*, *Marine Geophysical Research*, *Quarterly Journal of Engineering Geology and Hydrogeology*, *Arabian Journal of Geosciences*, *Journal of Mountain Science*
- SKILLS**
- **Groundwater Modeling** - Numerical Modeling, Analytical Modeling, COMSOL, UDEC, 3DEC, Seep/W 2D&3D, MODFLOW
  - **Statistical Models** - Multiple Regression Analysis, SPSS, Table Curve 2D&3D
  - **Predictions Model** - Artificial Neural Networks, Radial Basis Function Networks
  - **Geomechanics & Rockmechanics Software** - PLAXIS, Geoslope, Slide 4.0, Unwedge, Swedge
  - **Programming** - MATLAB
- MAJOR PROJECTS**
- Rock-water interaction in complex alpine groundwater systems
  - Evaluation of groundwater flow into Bulchen tunnels by numerical modeling
  - Stability analysis and support design for water deviation binary tunnels of Baychebagh dam

## HADI FARHADIAN, PHD

University of Birjand  
Faculty of Engineering  
Department of Mining

Pardis campus, University of Birjand Blvd,  
Avini Blvd, Birjand, Iran. P-o Box: 97175/615  
E-Mail: [farhadian@birjand.ac.ir](mailto:farhadian@birjand.ac.ir)  
Tel.: (+98) (56) (32016474)



CV QR Code

- Evaluation of groundwater flow into Amirkabir tunnel by numerical and analytical analysis

### TEACHING

Present courses at University of Birjand:

- Lecture: Special topics (MSc-program)
- Lecture: Hydrogeology (MSc-program)
- Lecture: Geotechnical Engineering (BSc-program)
- Lecture: Numerical analyses (BSc-program)
- Lecture: Statics (BSc-program)
- Laboratory course: Rock Mechanics (BSc-program)
- Field course: Surveying Engineering (BSc-program)
- Lecture: Structural Geology (BSc-program)
- Lecture: Technical English (BSc-program)
- Supervision of MSc and BSc theses
- Student field trips

### INTEREST

- Swimming, Football, Music, Mountain climbing, Walking, Aerobic

### LICENSES

AND

### CERTIFICATION

- Data Analysis with SPSS Software Workshop, Lecturer, Mar 2012
- ICDL (advance), Jun 2011
- Advanced Geostatistics Workshop, Mar 2010

### COMMITTEE

### MEMBERSHIP

- IAH (International Association of Hydrogeologists)
- SPE (Society of Petroleum Engineers)
- TMS (The Minerals, Metals & Materials Society)
- SEG (Society of Exploration Geophysicists)
- GSL (Geological Society of London)

### PUBLICATIONS

- **Peer-reviewed papers in scientific journals**

Zeynab Maleki, **Hadi Farhadian**, Arash Nikvar Hassani, 2020, Geological Hazard in Tunnelling: The Example of Gelas Water Conveyance Tunnel in Iran. Quarterly Journal of Engineering Geology and Hydrogeology

**Hadi Farhadian**, Arash Nikvar Hassani, 2020, Development of a New Empirical Method to Tunnel

## HADI FARHADIAN, PHD

University of Birjand  
Faculty of Engineering  
Department of Mining

Pardis campus, University of Birjand Blvd,  
Avini Blvd, Birjand, Iran. P-o Box: 97175/615  
E-Mail: [farhadian@birjand.ac.ir](mailto:farhadian@birjand.ac.ir)  
Tel.: (+98) (56) (32016474)



CV QR Code

---

Squeezing Classification (TSC). Quarterly Journal of Engineering Geology and Hydrogeology

**Hadi Farhadian**, Arash Nikvar Hassani, 2019. Water Flow into Tunnel in Discontinuous Rock: A Short Critical Review of the Analytical Solution of the Art. Bulletin of Engineering Geology and the Environment 78 (5):3833-3849

Hadi Moeini, **Hadi Farhadian**, Arash Nikvar Hassani, 2018. Determination of the optimum sealing method for Azad pumped storage dam considering seepage analysis. Arabian Journal of Geosciences 11(14):389

Arash Nikvar Hassani, **Hadi Farhadian**, Homayoon Katibeh, 2018. A comparative study on evaluation of groundwater inflow into a shallow circular tunnel. Tunnelling and Underground Space Technology 73:15-25

**Hadi Farhadian**, Arash Nikvar Hassani, Homayoon Katibeh, 2017. Groundwater inflow assessment to Karaj Water Conveyance tunnel, northern Iran. KSCE Journal of Civil Engineering, 21(6):2429-2438

**Hadi Farhadian**, Homayoon Katibeh, 2017. New empirical model to evaluate groundwater flow into circular tunnel using multiple regression analysis. International Journal of Mining Science and Technology, 27(3):415-421

Christoph Butscher, Stefan Scheidler, **Hadi Farhadian**, Horst Dresmann, Peter Huggenberger, 2017. Swelling potential of clay-sulfate rocks in tunneling in complex geological settings and impact of hydraulic measures assessed by 3D groundwater modeling. Engineering Geology, 221:143-153

Milad Kurdi, **Hadi Farhadian**, Teymour Eslamkish, 2016. Hydro-geochemistry of Qare-Sou Catchment and Gorgan Gulf, Iran: Examining Spatial and Temporal Distribution of Major Ions and Determining the River's Hydro-chemical Type. World Academy of Science, Engineering and Technology, International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering, 10(10): 962-976

**Hadi Farhadian**, Homayoon Katibeh, Peter Huggenberger, Christoph Butscher, 2016. Optimum Model Extent for Numerical Simulation of Tunnel Inflow in Fractured Rock. Tunneling and Underground Space Technology, 60: 21-29

**Hadi Farhadian**, Homayoon Katibeh, Peter Huggenberger, 2016. Empirical Model for Estimating Groundwater flow into Tunnel in Discontinuous Rock Masses. Environmental Earth Sciences, Springer, 2016, 75 (6): 1-16

Arash Nikvar Hassani, Homayoon Katibeh, **Hadi Farhadian**, 2015. Numerical analysis of steady-state groundwater inflow into Tabriz line 2 metro tunnel, northwestern Iran, with special consideration of model dimensions. Bulletin of Engineering Geology and the Environment, Springer, 2015, 1-11

**Hadi Farhadian**, Homayoon Katibeh, 2015. Groundwater Seepage Estimation into Amirkabir Tunnel Using Analytical Methods and DEM and SGR Method. World Academy of Science, Engineering and Technology, International Journal of Civil, Structural, Construction and Architectural Engineering, 9(3): 255-260

## HADI FARHADIAN, PHD

University of Birjand  
Faculty of Engineering  
Department of Mining

Pardis campus, University of Birjand Blvd,  
Avini Blvd, Birjand, Iran. P-o Box: 97175/615  
E-Mail: [farhadian@birjand.ac.ir](mailto:farhadian@birjand.ac.ir)  
Tel.: (+98) (56) (32016474)



CV QR Code

**Hadi Farhadian**, Homayoon Katibeh, 2015. Effect of Model Dimension in Numerical Simulation on Assessment of Water Inflow to Tunnel in Discontinues Rock, World Academy of Science, Engineering and Technology, International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering, 9(4): 256-260

**Hadi Farhadian**, Homayoon Katibeh, Ahmad Reza Sayadi, 2013. Prediction of Site Groundwater Rating (SGR) for Amirkabir Tunnel Using Radial Basis Function Network. International Journal of Mining, Metallurgy & Mechanical Engineering, 1(1):5-9

**Hadi Farhadian**, Ali Aalianvari, Homayoon Katibeh, 2012. Optimization of analytical equations of groundwater seepage into tunnels Case study: AmirKabir tunnel. Journal of the Geological Society of India, 80 (1):96-100

**Hadi Farhadian**, Meysam Solouki, Homayoon Katibeh, 2012. Comparison of SGR method with the results of analytical equations governing groundwater inflow into Amirkabir tunnel. Journal of Environmental Geology, 6(18):7-16.

Mahsa Sedighi, Vahid Khosravi, **Hadi Farhadian**, 2012. Estimating the Impact of Important Parameters on Biosorption of Cu and Mn Ions in Sarcheshme Copper. Journal of Geology and Environment, Islamic Azad University, Iran.

- **Conference proceedings: peer-reviewed papers**

Farhad Bahmani Shahraki, **Hadi Farhadian**, Saeed Yousefi, Effect of Fault Geometrical Structure on Water Inflow to Underground Spaces in Saturated Media. 8<sup>th</sup> Iranian Mining Engineering Conference, Birjand, Iran.

Mohammad Mortezaei Nezhad, **Hadi Farhadian**, 2020. Effect of different fracture distributions in Baecher-type on tunnel displacement using FEM. 8<sup>th</sup> Iranian Mining Engineering Conference, Birjand, Iran.

Zeynab Maleki, **Hadi Farhadian**, 2020. Squeezing Potential Evaluation in Second Part of Glass Tunnel Using Experimental Methods. 8<sup>th</sup> Iranian Mining Engineering Conference, Birjand, Iran.

**Hadi Farhadian**, 2019. Evaluation of optimum thickness of grouting zone around tunnel for reduction of water inflow into the tunnel (underground structures). 3<sup>rd</sup> International Conference on Applied Researches in Structural Engineering and Construction Management, Tehran, Iran.

**Hadi Farhadian**, Arash Nikvar Hassani, Hamid Reza Mohebbi, 2019. Water inflow assessment into Tabriz line 2 metro tunnel. 6<sup>th</sup> International Conference on Recent Advances in Railway Engineering, Tehran, Iran.

Alireza Moghbeli Gharaei, **Hadi Farhadian**, Saeed Yousefi, 2018. Prospecting for Copper, Zinc and Selenium Deposits in Geobotanical point of view. 10<sup>th</sup> Symposium of Iranian Society of Economic Geology, University of Isfahan, Isfahan, Iran (2):105-111.

Komeil Kaheni, Saeed Yousefi, **Hadi Farhadian**, 2018. Evaluating the economic potential of phytomining method to extract metal from low-grade mineralized areas. 10<sup>th</sup> Symposium of

## HADI FARHADIAN, PHD

University of Birjand  
Faculty of Engineering  
Department of Mining

Pardis campus, University of Birjand Blvd,  
Avini Blvd, Birjand, Iran. P-o Box: 97175/615  
E-Mail: [farhadian@birjand.ac.ir](mailto:farhadian@birjand.ac.ir)  
Tel.: (+98) (56) (32016474)



CV QR Code

---

Iranian Society of Economic Geology, University of Isfahan, Isfahan, Iran (2):148-154.

Amir Hossein Hosseini, Hadi Farhadian, Komeil Kaheni, 2018. Aquifer qualitative zoning of Birjand Plain using Kriging method in GIS. 1<sup>st</sup> National Conference on Modeling and New Technologies in Water Management.

Hossein Bazzi, Hossein Noferesty, **Hadi Farhadian**, 2018. Numerical effect investigation on mining slope stabilities in static and dynamic conditions. 1<sup>st</sup> National Conference of Modelling in Mining Engineering. Imam Khomeini International University, Qazvin, Iran.

**Hadi Farhadian**, Vahid Khosravi, Mahsa Sedighi, 2018. How petroleum hydrocarbon contaminated soils can be treated via bioremediation? A perspective review. The 36<sup>th</sup> National and the 3<sup>rd</sup> International Geosciences Congress, Tehran, Iran.

Hadi Jarahi, Mohammad Jalali, **Hadi Farhadian**, 2014. Analysis of acceleration, uniform risk spectrum and seismic hazard using probabilistic method at the site of Baychebagh dam, National Conference on Mineral Sciences, Sari, Iran.

Arash Nikvar Hassani, **Hadi Farhadian**, Homayoon Katibeh, 2014. Validation of Seep/w software for estimating groundwater leakage to shallow tunnels, National Conference on Mineral Sciences, Sari, Iran.

Arash Nikvar Hassani, **Hadi Farhadian**, Homayoon Katibeh, 2014. Groundwater inflow assessment to Tabriz line 2 metro tunnel. National Conference on Architecture, Civil Engineering and Urban Modern Development, Tabriz, Iran.

Arash Nikvar Hassani, **Hadi Farhadian**, Homayoon Katibeh, 2014. Evaluation of SGR and TIC methods in classification of water inflow to urban tunnels; Case study: tunnel Line 2 metro Tabriz. 5<sup>th</sup> Mining Engineering Conference, Tehran, Iran.

**Hadi Farhadian**, Samira Tabasi, Mohammad Jalali, Homayoun Katibeh, 2012. An Optimal pattern of exploration of coal reserves. 1<sup>st</sup> National Coal Congress, Shahroud, Iran.

Vahid Khosravi, Faramarz Doulati Ardejani, **Hadi Farhadian**, 2012. Biological absorption of Lead (II) by *Saccharomyces cerevisiae* biomass, Fourth Iranian Water Resources Management Conference, Tehran, Iran.

Ali Aalianvari, Homayoon Katibeh, Mostafa Sharifzadeh, **Hadi Farhadian**, 2010. Estimation of fault zone permeability with Fuzzy-Delphi AHP (FDAHP) method, Rock Mechanics in Civil and Environmental Engineering, Lausanne, Switzerland.

**Hadi Farhadian**, Homayoon Katibeh, Jafar Hassanpour, Ali Aalianvari, 2010. Amirkabir tunnel site rating from groundwater hazard point of view using SGR and comparison with analytical method, 3<sup>th</sup> Iranian Mining Engineering Conference, University of Yazd, Yazd, Iran.

Ali Aalianvari, Homayoun Katibeh, Mostafa Sharifzadeh, **Hadi Farhadian**, 2009. Estimation of Initial Groundwater Inflow into Ghomroud Tunnel. 8<sup>th</sup> Iranian Tunnelling Conference, Tarbiat Modares University, Tehran, Iran.

**Hadi Farhadian**, Ali Aalianvari, Homayoon Katibeh, 2009. Optimization of analytical equations

## HADI FARHADIAN, PHD

University of Birjand  
Faculty of Engineering  
Department of Mining

Pardis campus, University of Birjand Blvd,  
Avini Blvd, Birjand, Iran. P-o Box: 97175/615  
E-Mail: [farhadian@birjand.ac.ir](mailto:farhadian@birjand.ac.ir)  
Tel.: (+98) (56) (32016474)



CV QR Code

---

governing groundwater inflow into hard rock tunnels, case study: Amirkabir tunnel, 6<sup>th</sup> Conference of Engineering Geology and the Environment, Tarbiat Modares University, Tehran, Iran 1-8.

- **Under review**

**Hadi Farhadian**, A new empirical chart for rockburst analysis in tunneling: Tunnel Rockburst Classification (TRC).

**Hadi Farhadian**, Zeynab Maleki, Assessment of the Optimum Depth of Sealing Cutoff Walls in the Core of Peygham-Chay Dam.

## REFERENCES

- **Homayoun Katibeh**  
Amirkabir University of Technology (Tehran Polytechnic)  
Hafez Ave.  
424, Tehran  
Phone: (+98) 21-645-42926  
Email: [Katibeh@aut.ac.ir](mailto:Katibeh@aut.ac.ir)
- **Peter Huggenberger**  
University of Basel, Institute of Geology and Paleontology  
Applied and Environmental Geology, Bernoullistrasse 32  
4056 Basel, Switzerland  
Phone: (+41) 61 207 35 92  
Email: [Peter.huggenberger@unibas.ch](mailto:Peter.huggenberger@unibas.ch)
- **Christoph Butscher**  
Karlsruhe Institute of Technology (KIT), Institute for Applied Geosciences (AGW)  
Division of Engineering Geology  
Kaiserstr. 12, 76131 Karlsruhe, Germany  
Phone: (+49) 721 608 43414  
Email: [christoph.butscher@kit.edu](mailto:christoph.butscher@kit.edu), phone: +49 721 608 43414
- **Pejman Tahmasebi**  
University of Wyoming  
Department of Petroleum Engineering  
WY, Laramie, USA  
Phone: (+1) 307-766-4258  
Email: [ptahmase@uwyo.edu](mailto:ptahmase@uwyo.edu)