

Dr. Bijan Taheri

(Assistant Professor of Mineral Processing)

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Personal Details:

Date of Birth: 12-March-1981

Nationality: Iranian

Marital Status: Married

Languages: Persian, Turkish, English

Professional Summary:

Assistant Professor of Mineral Processing Engineering, University of Kashan, Iran.

Work Experiences:

- Consultant at Esteghlal Fire-Clay Company, Fars, Iran (2021)
- Head of mining engineering department at University of Kashan, Iran (2017-2021)
- Member of the faculty recruitment board at University of Kashan, Iran (2016-2017)
- Faculty member of mining engineering department at University of Kashan, Iran (Since 2014)
- Researcher in Sarcheshmeh copper complex, Kerman, Iran (2006-2012)

Education:

Ph.D. of Mineral Processing Engineering (*Sep 2009-Aug 2013*)

Tarbiat Modares University, Tehran, IRAN

Thesis Title:

Controlled potential flotation of copper sulphide minerals using sulphur-bearing reagents

M.Sc. of Mineral Processing Engineering (*Sep 2006-Jan 2009*)

Tarbiat Modares University, Tehran, IRAN

Thesis Title:

Investigation of suitable alternatives for sodium sulfide to be used in molybdenum enrichment plant of Sarcheshmeh Copper Complex

B.Sc. of Mining Engineering (*Sep 2002-Aug 2006*)

Yazd University, Yazd, IRAN

Thesis Title:

Statistical modeling of western wall of Choqart Mine

Teaching Experiences:

- Flotation and Surface Phenomena in Mineral Processing.
- Advanced Hydrometallurgy (leaching, Concentration, Purification and Precipitation).
- Solution Chemistry in Hydrometallurgy.
- Thermodynamic in Mineral Processing.
- Analytical Methods and Instruments in Mineral Processing.

Research Interests:

- Chemical and physicochemical methods in mineral processing (Hydrometallurgy and Flotation).
- Surface chemistry and adsorption mechanism of surfactants on minerals in flotation process.
- Solution chemistry in hydrometallurgical processes.
- Computational chemistry using softwares based on density functional theory (DFT).

Research Experiences:

- Flotation of different minerals (sulphides, oxides, phosphates, salts, and coal)
- Application of DFT in the adsorption phenomena.
- Application of nitrile-based collectors in copper sulfide flotation.
- Li and Mg recovery from salt lake brines.
- Enrichment of REEs from phosphate concentrate.
- Application of Ionic liquids (ILs) and Deep Eutectic Solvents (DESs) in hydrometallurgy.
- Electronic waste management (recycling).
- Iron removal from ball clays.
- Sulfur removal from iron ore concentrate.
- Optimization of flotation circuits.
- Removal of heavy metal ions from wastewaters.
- Investigation of water quality on copper heap leaching.
- Leaching of different ores (copper, zinc, phosphates, and clay).
- Adsorption of gold complexes in charcoal and graphene oxide.

Industrial Activities:

Industry-Funded Projects:

- Iron Removal from fireclay by leaching using organic acids.
Esteghlal Refractory Soil Production Company, Abadeh, Fars, Iran (2020-2021)
- Feasibility study of an iron ore processing from Tange Zagh mine in Iran.
Omran Moomun CHababar Co. (OMCH), Bandar Abbas, Hormozgan, Iran (2018-2019)
- Controlled potential flotation of copper sulfide minerals (PhD Thesis).
Sarcheshmeh Copper Complex, Kerman, Iran (2010-2012)
- Alternative depressants for sodium sulfide in Mo enrichment plant (MSc Thesis).
Sarcheshmeh Copper Complex, Kerman, Iran (2007-2008)
- Feasibility study of insulating glass production.
Academic Center for Education, Culture, and Research (ACECR), Tehran, Iran (2006-2007)

Industry-Funded Student Theses (as supervisor):

- Optimization of coal flotation factors in column cell of Tabas Coal Plant.
Tabas Parvadeh Coal Company (TPCCO), Tabas, Yazd, Iran (2020-2021).

- Investigation on the performance and efficiency improvement of tail thickener of hematite plant.
Golgozar Mining and Industrial Company, Kerman, Iran (2018-2019).
- Feasibility study of the heavy metals adsorption on the construction waste.
Development of Environment, Isfahan, Iran (2017-2018).
- Investigating the efficiency of controlling methods of jarosite formation in order to increase copper recovery in the chalcopyrite concentrate bioleaching process.
Sarcheshmeh Copper Complex, Kerman, Iran (2017-2018).
- The feasibility study of metallurgical improvement of second enrichment plant of Sarcheshmeh.copper complex by transportation of some enriched rougher concentrates to another proper point of circuit.
Sarcheshmeh Copper Complex, Kerman, Iran (2015-2016).
- Optimization of the grinding circuit and the magnetic separator of the 2th operating line of Gole-e-Gohar concentrator using the USIM PAC Simulator.
Golgozar Mining and Industrial Company, Kerman, Iran (2015-2016).
- Effect of water quality on the leaching of a low-grade copper sulfide ore.
Sarcheshmeh Copper Complex, Kerman, Iran (2015-2016).

Publications:

Books:

Bijan Taheri, Farideh Rezaei, Classical and Instrumental Methods and Principles of Mineral Analysis (in Persian), Kashan university press, 2019.

Bijan Taheri, Ramin Bani Hashemi, translation of “**Separation Hydrometallurgy of Rare Earth Elements**” written by Jack Zhang. Baodong Zhao, and Bryan Schreiner, Kashan university press, 2017.

Journals Articles:

Bijan Taheri. “Iron removal from kaolin by oxalic acid using a novel pre-agitating and high-pressure washing technique” *Clay Minerals - Journal of Fine Particle Science*, (2023). (Accepted on 2023-04-27)

Heshami, Monireh, Zahra Tavangar, and **Bijan Taheri.** "Adsorption of gold and silver glycinate on graphene and graphene oxide surface: A DFT study." *Applied Surface Science* 619 (2023): 156676.

Bijan Taheri, Farideh Rezaei, Nasrin Shadjou, Ahmad Hassanzadeh; A molecular analysis on nitrile-based collectors and their application to chalcopyrite flotation; *Minerals Engineering*, 186 (2022) 107763.

Bijan Taheri, Mohammad Hossein Darvishnejad, Farideh Rezaei; Depression Effect of Thioglycolic Acid (TGA) on Flotation Separation of Molybdenite from Copper Sulfides with different Collectors: An Experimental and Theoretical Study; *ChemistrySelect* 7 (11), (2022) e202200026.

Ehsan Zareian, **Bijan Taheri,** Marjan Azghadi, Feasibility Study of Alternative Water Sources for Well Water in Heap Leaching Process, *World of Mining - Surface and Underground*, (2020) 72 (3), 2-7.

Banihashemi, Seyed Ramin, **Bijan Taheri**, Seyed Mohammad Razavian, and Faraz Soltani. "Nitrophosphate Solution Purification by Calcium Precipitation as Gypsum, *International Journal of Minerals, Metallurgy, and Materials (JOM)*, (2020), 73: 27-31.

Reza Kohan, **Bijan Taheri**, Monireh Heshami, Behrouz Maghsodi, Feasibility Study on the Modification and Improvement of Flotation Circuits at Enrichment Plant 2 of the Sarcheshmeh Copper Complex, *Mining, Metallurgy & Exploration (2020)* 37 (2), 555-566.

Seyed Ramin Banihashemi, **Bijan Taheri**, Seyed Mohammad Razavian, Faraz Soltani; Selective nitric acid leaching of rare earth elements from calcium and phosphate in a fluorapatite concentrate, *International Journal of Minerals, Metallurgy, and Materials (JOM)*, (2019) 71 (12), 4578-4587.

Bijan Taheri, Majid Lotfalian; Effect of Ultrasonic Pre-treatment and Aeration on Flotation Separation of Chalcopyrite from Pyrite, *Iranian Journal of Chemistry and Chemical Engineering (Iran. J. Chem. Chem. Eng.)*, (2018) 37 (5), pp 199-207.

Hossein Faraji, **Bijan Taheri**, Aliakbar Abdollahzadeh, Desulfurization of the Gole Gohar iron ore by controlling the electrochemical conditions of pulp (in Persian), *Iranian Journal of Mining Engineering (IRJME)*, Vol. 4, No. 36, 2018, pp. 1-15.

Bijan Taheri, Mahmoud Abdollahy, Sied Ziaedin Shafaei Tonkaboni, Soheyla Javadian, Investigating the Flotation Behaviour of Chalcopyrite in the Presence of Sodium Sulphide under Controlled Potential , *Iranian Journal of Mining Engineering (IRJME)*, Vol. 9, No. 24, 2014, pp. 1-15.

Bijan Taheri, Mahmoud Abdollahy, Sied Ziaedin Shafaei Tonkaboni, Soheyla Javadian, Flotation Separation of Chalcocite from Pyrite Using Controlled Redox Potential (in Persian), *Journal of Separation Science and Engineering*, Vol. 5 , No. 1 , 2013, pp. 35-47.

Abdollahy, M., **Taheri, B.**, Khodadadi, A., Zeidabadi, S., Eslami, A., Separation of Molybdenite from Copper Sulfide Concentrates Using Thioglycolic Acid as a Depressant (in Persian), *Iranian Journal of Mining Engineering (IRJME)*, Vol. 6, No. 12, 2011, pp. 31-40.

Bijan Taheri, Mahmoud Abdollahy, Sied Ziaedin Shafaei Tonkaboni, Soheyla Javadian, and Mohammadreza Yarahmadi, Dual Effects of Sodium Sulphide on the Flotation Behavior of Chalcopyrite, I: Effect of Pulp Potential, *International Journal of Minerals, Metallurgy, and Materials*, Volume 21, Number 5, May 2014, pp. 415-422.

Conferences Articles:

M.A. Rostamiraja, **B. Taheri**, S.M. Razavian, M. Ghorbannezhad, Optimization of the 4th Gole-e-Gohar separation circuit based on the sensitivity of magnetic separation circuit to particles size, *8th Iranian Mining Engineering Conference, February 2020, Birjand, Iran.*

Rohollah Jahangiri, **Bijan Taheri**, Shahamat rostami, Investigation of the parameters affecting the sedimentation of new feed of tail thickener at Gol-e-Gohar Hematite Plant (in Persian); *second Mining and Green Mining Industries Congress, December 2019, Zanjan, Iran.*

Fereshteh Khani Garmsiri, Ali Akbar Abdollahzadeh, **Bijan Taheri**, Monireh Heshami; Investigation of effective parameters influence on hematite and silica flotation by hallimond tube (in Persian); *5th International Mine and Mining Industries Congress and 7th Iranian Mining Engineering Conference, November 2018, Iran-Tehran.*

Ramin Banihashemi, **Bijan Taheri**, Seyed Mohammad Razavian, Faraz Soltani; Selective leaching of rare earth elements from P and Ca of Esfordi phosphate concentrate in nitrate media (in Persian);

The 36th National and the 3rd International Geological Congress of Iran, 25-27 February 2018., Iran-Tehran.

Reza Kohan, **Bijan Taheri**, Behrouz Maghsodi; The feasibility study of metallurgical improvement of second enrichment plant of Sarcheshmeh copper complex by transportation of first unit enriched rougher concentrates to culomn cell feed (in Persian); *4th International Mine & Mining Industries Congress & 6th Iranian Mining Engineering Conferences, (November 2016), Iran-Tehran.*

Bijan Taheri, Mahmoud Abdollahi; Electrochemical Behavior of Collectorless Flotation of Chalcopyrite in Alkaline Medium (in Persian); *4th International Mine & Mining Industries Congress & 6th Iranian Mining Engineering Conferences, (November 2016), Iran-Tehran.*

Ehsan Zareian, **Bijan Taheri**, Majid Lotfalian, ali riahi; Effect of water sources and their chemical compounds on copper dissolution in bottle roll tests (in Persian); *4th International Mine & Mining Industries Congress & 6th Iranian Mining Engineering Conferences, (November 2016), Iran-Tehran.*

Hossein Faraji, **Bijan Taheri**, Aliakbar Abdollahzadeh, Investigating the Optimum Electrochemical Conditions for Pyrite Removal from Iron Ore Using Sulfhydryl Collectors (in Persian), *3rd International Conference of Iron Ore, (November 2015), Iran-Tehran.*

Bijan Taheri, Mahmoud Abdollahy, Investigating the Electrochemical Behavior of Chalcocite Using Cyclic Voltammetry (in Persian), *33rd National Geoscience Symposium, (February 2015), Iran-Tehran.*

Bijan Taheri, Mahmoud Abdollahy, Sied Ziaedin Shafaei Tonkaboni, Soheyla Javadian, and Mohammadreza Yarahmadi, Investigating the Effect of Pulp Potential on the Flotation Behavior of Chalcopyrite in the Presence of Sodium Hydrosulphide (in Persian), *5th Iranian Conference of mining Engineering, (October 2014), Iran-Tehran.*

Abdollahy, M., **Taheri, B.**, Khodadadi, A., Zeidabadi, S., The Possibility of Using Thioglycolic acid instead of sodium sulfide in the Molybdenum Enrichment Plant of Sarcheshmeh Copper Complex, *6th International Congress on Chemical Engineering, 2009, kish, Iran.*

Other Experiences:

- Director in charge of establishing a laboratory for chemical processes of mineral processing at University of Kashan, Iran.
- Holding flotation courses and workshop for mining technicians.
- Collaboration with the scientific centers as a reviewer.
 - Iranian Research Organization for Science and Technology (IROST)
 - Iranian Department of Environment (National Environmental Fund)
 - High Technology Development Fund
- Collaboration with the scientific research journals as a reviewer.
 - Iranian Journal of Chemistry and Chemical Engineering (IJCCE)
 - Physicochemical Problems of Mineral Processing (PPMP)
 - Journal of Mining and Environment (JME)
 - Journal of Analytical and Numerical Methods in Mining Engineering (ANM)
 - Mineral Processing and Extractive Metallurgy Review
 - Iranian Journal of Earth Science
 - Journal of Mineral Resources Engineering (JMRE)

- Collaboration with the scientific conferences as a reviewer.
 - The 5th Mining Engineering Conference (2014)
 - The 1st National Conference on Modeling in Mining Engineering (2018)
 - The 3rd Iranian Mining Technology Conference (2022)
- Collaboration with National Organization of Educational Testing as an examiner.

Hobbies:

- Literature (Reading and Writing)
 - Sport (Hiking, Swimming, Cycling, Volleyball, Ping-Pong)
 - Cooking
 - Traveling and sightseeing
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References:

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