



Dr. Ali Ahmadi



Academic Position: Assistant Professor of Mineral Processing & Hydrometallurgy

Department of Mining Engineering, Isfahan University of Technology (IUT)

Head of Mineral Bioprocessing Research Group (MBRG)

Date of Birth: 27/7/1980

Place of Birth: Sahneh (Kermanshah), Iran

Nationality: Iranian

Marital status: Married

Academic Education: **Ph.D.:** Mineral Processing Engineering (Hydrometallurgy), 2007-2010,

Shahid Bahonar University of Kerman, Kerman, Iran.

Ph.D. Thesis: Reactor Design, Process Investigation and Kinetic Modeling of Copper Electro-Bioleaching from Sulphide Minerals

Sabbatical Fellowship: Department of Chemical Engineering, University of Cape Town, South Africa, Feb. 2010 – Sep. 2010.

M.Sc. Mineral Processing Engineering, 2004-2006. Shahid Bahonar University of Kerman, Kerman,



Iran.

M.Sc. Thesis: Investigation into the Role of Surface Chemistry in Optimizing Apatite Flotation from Iron Oxides.

B.Sc. Mining Exploration Engineering, 1999-2003.
Shahid Bahonar University of Kerman, Kerman, Iran.

B.Sc. Project: Processing of Pegmatite Ores; Case study: Zamanabad Mine, Hamadan, Iran. Shahid Bahonar University of Kerman, Kerman, Iran.

Journal papers

- **A. Ahmadi**, M. Ranjbar, M. Schaffie, J. Petersen, 2012. Kinetics of Bioleaching of Copper Sulfide Concentrates in Conventional and Electrochemically controlled Systems. *Hydrometallurgy* (Accepted for publication).
- **A. Ahmadi**, M. Ranjbar, M. Schaffie, 2012. Catalytic effect of pyrite on the leaching of chalcopyrite concentrates in chemical, biological and electrobiochemical systems. *Minerals Engineering*, 34 (2012) 11–18.
- **A. Ahmadi**, M. Ranjbar, M. Schaffie, 2012. Effect of activated carbon addition on the conventional and electrochemical bioleaching of chalcopyrite concentrates. *Geomicrobiology*, (Article in press).
- **Ahmadi, A.** Schaffie, M. Petersen, J., Schippers, A., Ranjbar, M., 2011. Conventional and electrochemical bioleaching of chalcopyrite concentrates by moderately thermophile bacteria at high pulp density. *Hydrometallurgy*, 106(1-2), 84-92.
- **Ahmadi, A.**, Schaffie, M., Manafi, Z., Ranjbar., M., 2010. Electrochemical bioleaching of high grade chalcopyrite flotation concentrate in a stirred tank reactor. *Hydrometallurgy* 104, 99-105.
- **Ahmadi, A.**, Schaffie, M., Manafi, Z., Ranjbar, M., 2010. Optimization of copper concentrate bioleaching by mixed moderate thermophile bacteria. *Journal of Separation Science and Engineering* 2(1), 23-35.



International conference papers

- **A. Ahmadi**, M. Ranjbar, M. Schaffie, J. Petersen, 2011. Kinetic modeling of (electro)-biological leaching of copper flotation concentrates. 22nd World Mining Congress | 11-16 September 2011 Istanbul, Turkey.
- **A. Ahmadi**, M. Schaffie, Z. Manafi, M. Ranjbar, 2010. Optimization of copper concentrate bioleaching by mixed moderate thermophile bacteria. Proceeding of Copper 2010 Conference, GDMB, Hamburg, Germany. 2575-2589.
- **A. Ahmadi**, M. Ranjbar, M. Schaffie, Z. Manafi, Z.. 2010. Effect of oxidation reduction potential and iron species on chemical leaching of copper concentrate. Proceeding of Copper 2010 Conference, GDMB, Hamburg, Germany, 1725-1738.
- **A. Ahmadi**, M. Ranjbar, M. Shafiei, Z. Manafi, 2008. Modeling of oxidation reduction potential in bioleaching systems by Fuzzy Logic. The First International Symposium on Bioelectrochemistry, Tehran, Iran.
- **A. Ahmadi**, M. Ranjbar, 2008. Evaluation of fatty acids effects on apatite and iron oxides wettability and their prediction by fuzzy logic. The 5th International Chemical Engineering Congress, Kish Island, Iran.
- **A. Ahmadi**, M. Ranjbar, H.R. Khatami. 2006. Application of fuzzy logic in modeling and simulating the apatite flotation process from iron oxides. 6th Iranian Conference on Fuzzy Systems and 1st Islamic World Conference on Fuzzy Systems, Shiraz, Iran.

National conference papers

- **Ahmadi**, M. Ranjbar, M. Schaffie, Z. Manafi, 2011. Electrochemical bioleaching: a new route to treat chalcopyrite concentrates. First National Copper Conference, Kerman, Iran.
- **Ahmadi**, A., Ranjbar M., Schaffie, M., Manafi, Z.. 2009.



Electrobioremediation of chalcopyrite concentrates in the presence of silver ions. Proceeding of The first Iranian Conference on Nano&Biotechnology, Kerman, Iran.

- **Ahmadi**, M. Ranjbar, M. Shafiei, Z. Manafi, 2009. Copper recovery from sulphidic concentrate by mixed mesophile bacteria. The 6th National Biotechnology Congress of Iran, Tehran, Iran.
- **Ahmadi**, M. Ranjbar, M. Shafiei, Z. Manafi, 2009. Comparison between mixed mesophile and mixed moderate thermophile bacteria for copper extraction from chalcopyrite concentrates in a STBR. The First Conference of Separation Science and Engineering, Kerman, Iran.
- **Ahmadi**, M. Ranjbar, M. Shafiei, Z. Manafi, 2008. Investigation of Sarcheshmeh copper concentrate dissolution by electrochemical methods. 12th Iranian Chemical Engineering Congress, Tabriz, Iran.
- **Ahmadi**, M. Ranjbar, 2008. The Investigation of Interfacial Phenomena on Apatite Flotation System. 2nd Iranian Mining Engineering, Tehran, Iran.
- E. Abkhoshk, **A. Ahmadi**, S. Banisi, 2007. Modeling of Coal Flotation by Fuzzy Logic. First Joint Congress on Fuzzy and Intelligent Systems (7th Iranian Conference on Fuzzy Systems and 8th Conference on Intelligent Systems), Mashhad, Iran.
- **Ahmadi**, M. Ranjbar, H. Aminshirazi. 2006. Qualitative evaluation of effects of chemical variables on surface tension of aquatic solutions in apatite flotation. 11th Iranian Chemical Engineering Congress, Tehran, Iran.

Patent

- **A. Ahmadi**, M. Ranjbar, M. Schaffie, 2009. Design and manufacture of an electroreactor for chemical, biological, electrochemical and electrobiological processes. Iranian patent No. 62220.



Accomplished Research Projects

- 2011 Feasibility Study for Processing Plant of Dalli Copper-Gold Ore.**
Funded by Dorsa Pardazeh Company.
- 2009-2010 Design and Kinetics Modelling of Copper Electro-bioleaching from Flotation Concentrate of Sarcheshmeh Copper Complex.**
Funded by National Iranian Copper Industry Company (NICICO).
- 2009-2010 Investigation of effect of additives on chalcopyrite copper concentrate bioleaching by mixed moderate thermophile bacteria,**
Funded by Shahid Bahonar University of Kerman.
- 2008-2009 Electrochemical Bioleaching of Sarcheshmeh Copper Concentrate,** Funded by National Iranian Copper Industry Company (NICICO).
- 2007-2008 Exploration and Processing of Industrial Minerals in Kerman Province.** Funded by the Organization of Mining and Industry of Kerman province.
- 2007-2008 Troubleshooting and improving Chromite Beneficiation Circuit of Esfandagheh.** Funded by Chromite Mine of Esfandagheh.
- 2004-2005 Investigation into the role of Effective Parameters of Well Destruction in Kermanshah Province.** Funded by Kermanshah Water Resources Organization.

Current Research Projects

- 2011-2012 Removal of Inorganic Sulfur from Coal in Tabas Coal Processing Plant.** Funded by Coal Processing Plant of Parvadeh, Tabas.
- 2011-2012 Design and Construction of a Controllable Electrobioreactor.**
Funded by Isfahan University of Technology.



Teaching Experiences

- Hydrometallurgy
- Advanced Mineral Processing
- Mineral Processing
- Flotation
- Processing of Industrial Minerals

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