

# Seyed Mohammad Razavian

(Engineering Department – University of Kashan)

Mobile:+98-9125839127 Tel.:+98-3155912428

E-mail: razavian@kashanu.ac.ir



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## Professional Summary:

Assistant Professor in Mineral Processing Engineering, University of Kashan

## Education:

**Ph.D. of Mineral Processing Engineering** (*Sep 2009-Feb 2014*)

AmirKabir University, Tehran-IRAN

**Thesis Title:**

Effect of High Voltage Electric Pulses on Phosphate Ore Comminution

**M.Sc. of Mineral Processing Engineering** (*Sep 2002-Apr 2005*)

AmirKabir University, Tehran-IRAN

**Thesis Title:**

Steady-State Simulation of milling circuits using spreadsheets

**B.Sc. of Mining Engineering** (*Sep 1995-Aug 2000*)

Isfahan University of Technology, Isfahan-IRAN

**Thesis Title:**

Novel technology of iron ore beneficiation

## Research Interests:

- Mineral Processing Modelling, Simulation and Control
- Comminution (High voltage electric pulse fragmentation)
- Mineral Processing Methods (Physical Separation)

## Teaching Experiences:

- Basic of Mineral Processing and Lab.
- Mining Economy
- Research Methods and Presentation
- Minerals Application
- Comminution Engineering
- Mineral Processing Modelling, Simulation and Control
- Design and Analysis of Experiments
- Mass and Heat Transfer
- New Progresses in Mineral Processing Equipment

## SKILLS

- Technical Software: USIM PAC, MODSIM, COMSIM (Programmed by Myself), DX7, Minitab 18, WinCC, PLCS7 (300).
- General Software: Microsoft Office (Word, Excel, PowerPoint), MATLAB. VBA.
- Operating PSA (Laser particle seizer: (Malvern 2000)
- Certificate of Participation: 1-day workshop "Mill Liner Design Using MillTraj", 16 January 2017, Presented by: Prof. Malcolm Powell.

- **Mineral Processing Expert and Assistant of Iran Mineral Processing Research Center (IMPRC) 2006-now.**

## **Publications:**

### **Journals Articles:**

Abolhasani A., Pachenari A., **Razavian S.M.**, Abolhasani M.M., 2022, Towards new generation of electrode-free conductive cement composites utilizing nano carbon black, *Construction and Building Materials* 323.

Sfaram Jooneghani M., **Razavian, S.M.**, Ghorbannejad M., 2021, Investigation of the Effect of Various Parameters on the Ore Hardness of Gole-Gohar's No. 1 Mine, *Journal of Mineral Resources Engineering*.

Banihashemi, S.R., Taheri. B., **Razavian, S.M.**, Soltani. F., 2020, Nitrophosphate Solution Purification by Calcium Precipitation as Gypsum, *JOM*.

Banihashemi, S.R., Taheri. B., **Razavian, S.M.**, Soltani F., 2018, Selective nitric acid leaching of rare earth elements from Ca and phosphate in a fluorapatite concentrate, Submitted

**Razavian, S.M.**, Rezai, B., Irannajad, M, 2015, Finite Element Method Based Simulation of Electrical Breakage of Iron-Phosphate Ore, *PPMP Journal*, Vol 51 (1), pp. 137-150.

**Razavian, S.M.**, Rezai, B., Irannajad, M, Ravanji, M.H., 2015, Numerical Simulation of High Voltage Electric Pulse Comminution of Phosphate Ore, *IJMST*, Vol. 25 (3), pp. 473-478.

**Razavian, S.M.**, Rezai, B., Irannajad, M., 2014, Investigation on Pre-weakening and Crushing of Phosphate Ore Using High Voltage Electric Pulses, *Advanced Powder Technology*, Vol. 25, pp. 1672-1678.

**.Razavian, S.M**, Irannajad M., Farzanegan A., 2008, Simulation of Closed Ball Milling Circuits in Spread-Sheet using COMSOL Software, *Iranian Journal of Chemistry & Chemical Engineering*, Vol. 27 (2), pp. 77-86.

Irannajad M., Farzanegan A., **Razavian S.M**, 2006, Spreadsheet-Based Simulation of Closed Ball Milling Circuits, *Minerals Engineering* Vol. 19, pp. 1495-1504.

## **Conferences Articles:**

Irannajad M., Farzanegan A., **Razavian S.M.**, 2005, Simulation of Hydrocyclone in Excel spreadsheet, Proceeding of 1<sup>st</sup> Iran Mining Engineering Conference, Tarbiat Modarres Uni. Tehran-Iran, pp. 811-821.

Irannajad, M, Farzanegan A.,, **Razavian,S.M.**, 2005, Computer Simulation of Tumbling Ball Mills in Excel Spreadsheet, 7-11 Nov. Tehran- Iran.

Farzanegan A, Irannajad, M., **Razavian,S.M.**, 2006, Spreadsheet-Based Simulation of Closed Ball Milling Circuits, Proceeding of Comminutio06 Conference, Australia, MEI online.

M. Irannajad, A. Farzanegan, **S.M. Razavian**, 2006, Computer Simulation of Ball Mill-Hydrocyclone Closed Circuit in Spreadsheets, 6-7 June Sudbury Canada, MPMSC Proceeding, pp. 111-124.

M. Irannajad, A. Farzanegan, **S.M. Razavian**, 2006, Recent Research in Mathematical Modelling and Computer Simulation of Comminution Processes and Circuits, MPMSC Proceeding,6-7 June, Sudbury Canada, pp.169-174.

**Razavian, S.M.**, Rezai, B., Irannajad M, 2012, Simulation of Rod Mill of Esfordi Phosphate Complex using USIMPAC Software, 1<sup>st</sup> Iranian Mining Technologies conference, Yazd- Iran.

**Razavian, S.M.**, Rezai, B., Irannajad M, Aram. M., 2012, Investigation of Relation between Static and Dynamic Media S.G. in Cyclone-DMS, Proceeding of 4<sup>st</sup> Iranian Mining Technologies conference, Tehran- Iran, pp. 79-85.

**Razavian, S.M.**, Rezai, B., Irannajad M, 2014, effect of High Voltage Electric Pulse on DOL and Beneficiation of Phosphate Ore, 32<sup>th</sup> National and the 1<sup>rd</sup> International Geosciences Congress of Iran, Tehran- Iran.

**Razavian, S.M.**, Rezai, B., Irannajad, M, 2014, Comparison of the Weight and Volume Particle Size Analysis in Mineral Processing, proceeding of fifth Iran Mining Engineering Conference. Tehran-Iran, pp. 1469-1473.

**Razavian, S.M.**, Rezai, B., Irannajad, M, 2016, Effect of High Voltage Electric Pulse on Specific Rate of Breakage of Phosphate Ore, Proceeding of International seminar on mineral processing technology-innovations in mineral processing (MPT2016), Pune-India, pp. 381-390.

Banihashemi, S.R., Taheri. B., **Razavian, S.M.**, Soltani F., 2018, Selective nitric acid leaching of rare earth elements from Ca and phosphate in a fluorapatite concentrate, 36<sup>th</sup> National and the 3<sup>rd</sup> International Geosciences Congress of Iran, Tehran- Iran.

**Razavian, S.M.**, Karampoori Kolahkaj F., 2018, Kinetic design of Ball mill, Case-study; Golestan Iron Ore Mine, Ghamsar-Kashan, 36<sup>th</sup> National and the 3<sup>rd</sup> International Geosciences Congress of Iran, Tehran- Iran.

Karampoori Kolahkaj F, **Razavian, S.M.**, 2018, Kinetic design of Closed Ball mill-Hydrocyclone circuit to Produce Iron Ore Concentrate, 1<sup>th</sup> National conference of Modelling in Mining Engineering, Ghazvin- Iran.

Zolfaghari Ali., **Razavian, S.M.**, Gharedaghi, M., 2019, Investigating Effect of the Solid Percent of Entrance Feed to the Thickener on Sedimentation Rate of Solid Particles: A Case Study of Waste Thickener in Line 7 Production of Concentrate of Gol-e-gohar Complex, 2<sup>th</sup> Mining Engineering Conference and Green Mining Industries, Zanjan- Iran.

Zolfaghari Ali., **Razavian, S.M.**, Gharedaghi, M., 2020, Optimization of Parameters Affecting Solid Particle sedimentation Process in Line 5,6,7 Thickeners of Gol-e-Gohar Company, 8<sup>th</sup> Iranian Mining Engineering Conference, Birjand- Iran.

Zolfaghari Ali., **Razavian, S.M.**, Gharedaghi, M., 2020, Investigation of The Effect of Different Parameters on The Thickener Behavior of The Line 7 of Golgohar Concentrate Plant, 8<sup>th</sup> Iranian Mining Engineering Conference, Birjand- Iran.

Rezaei K., **Razavian, S.M.**, 2020, Steady-State Simulation and Optimization of Ball mill of Hamedan Iron Ore Complex, 8<sup>th</sup> Iranian Mining Engineering Conference, Birjand- Iran.

Sfaram Jouneghani, M., **Razavian, S.M.**, Ghorbannejad, M., Javedani, N., 2020, Block No. 1 of Gol-e-gohar mine based on hardness using SPI test, 8<sup>th</sup> Iranian Mining Engineering Conference, Birjand- Iran.

Sfaram Jouneghani, M., **Razavian, S.M.**, Ghorbannejad, M., Amiri, M., 2022, Investigating the possibility of determining the hardness of ores by Los Angeles test and its relationship with SPI test, 3<sup>th</sup> Iranian Mining Technologies Conference, Yazd- Iran.

Ghaebi, H., **Razavian, S.M.**, 2023, Simulation of the microwave treatment on the iron ore comminution, 2nd International Conference & 6th National Conference on Materials, Metallurgy, Mining, Ahvaz-Iran.

Adine, F., **Razavian, S.M.**, 2023, Investigating the effect microwave treatment on the hematite magnetization, 2nd International Conference & 6th National Conference on Materials, Metallurgy, Mining, Ahvaz-Iran.

Veshadi Arani, M.R., **Razavian, S.M.**, 2023, Investigating the effect of natural salt type on reducing the voltage discharge time of lithium-ion batteries, 2nd International Conference & 6th National Conference on Materials, Metallurgy, Mining, Ahvaz-Iran.

Veshadi Arani, M.R., **Razavian, S.M.**, Veshadi Arani M.A., 2024, Investigating the effect of applying sound frequency on reducing the voltage discharge time of lithium-ion batteries, 12<sup>st</sup> Iranin Mining Engineering Conference, Kashan-Iran.

## **SELECTED RESEARCH EXPERIENCE**

- Investigation on Mineralogy and Beneficiation of Jalal Abad Iron Ore (Laboratory and Pilot Plant Scale), 2007-2008.
- Investigation on Mineralogy and Beneficiation of Jahannemo Iron Ore (Laboratory and Pilot Plant Scale), 2010.
- Grinding and Upgrading of Sangan Iron Ore (Pilot Plant Scale), 2008.
- Investigation on Column Flotation of Nakhlak Lead-Zinc Ore (Laboratory and Pilot Plant Scale), 2011.
- Investigation on Filtration of Sangan Iron Ore, 2009.
- Investigation on Cyclone Dense Media of Venarg Manganese Ore, 2012.
- Design and Carrying out of Pilot Scale Grinding Circuit of Esfordi Phosphate Ore to Reduce Slime, 2012.
- Simulation, Design and Carrying out of Grinding and Beneficiation of Sangan Iron Ore to produce Pelletizing Circuit, 2012.
- Design and Installation of Laboratory High Voltage Electric Pulse Crusher, 2013.
- Design and Installation of 5 t/h Cyclone Media Separation, 2016.
- Investigation and Beneficiation of Tang-e-Zagh Iron Ore to achieve Proper Concentrate, 2017.