Curriculum Vitae

Personal information:

First name: Seyyed Mohammad

Last name: Mousavi

Birth Date: 5 Jun 1978

Nationality: Persian

Present Job Title: Associate Professor

E-mail: Mousavi m@modares.ac.ir

Biotechnology Group, Chemical Engineering Department, Tarbiat Modares University, Tehran, Iran

Education:

- * Ph.D. in Chemical Engineering (2003-2007), Sharif University of Technology, Tehran, Iran.
- * M.Sc. in Chemical Engineering (2000-2002), Sharif University of Technology, Tehran, Iran.
- * B.Sc. in Chemical Engineering (1996-2000), Shahid Bahonar University of Kerman, Kerman, Iran.

Interests:

- * Environmental Biotechnology:
- Bioleaching
- Bioremediation
- Biodesulfurization
- -Wastewater Treatment
- * Food Biotechnology

- * CFD Simulation and Mathematical Modeling of Biological Phenomena
- * Statistical Modeling and Optimization of Biochemical Processes

Teaching experience:

- * Modeling and Simulation of Biological Phenomena (M.Sc Course)
- * Process Optimization (M.Sc and Ph.D Course)
- * Environmental Biotechnology (Ph.D Course)
- * Specific Discussions (Ph.D Course)

<u>Number of completed industrial projects:</u> I performed 12 projects for different industries.

Number of graduated students:

M.Sc Students: Supervisor: 30 and Advisor: 21

Ph.D Students: Supervisor: 7, Under supervision: 4 and Advisor: 17

Publications:

Books:

- 1- Author of book entitled: "Bioleaching of solid waste", Tarbiat Modares University Press, Tehran, 2019.
- 2- "Electronic waste recycling techniques", by Hugo Marcelo Veit and Andréa Moura Bernardes, translated, Tehran University Press, Tehran, 2019.
- 3- "Biochemical Engineering", by Shigeo Katoh and Fumitaki Yushida, <u>translated</u>, *Tarbiat Modares University Press*, 2012.
- 4- "Mass transfer from fundamentals to modern industrial applications", by Koichi Asano, translated, Tarbiat Modares University Press, Tehran, 2011.
- 5- "Modeling in transport phenomena" by Ismail Tousan, translated, **Sharif University** publisher, Tehran, 2010.

- 6- "General Microbiology and Biochemistry", Sanjesh publisher, Tehran, 2004.
- 7- "Applied Mathematics in Chemical Engineering", Sanjesh publisher, Tehran, 2004.

Book chapters:

- 1- N. Bahaloo-Horeh, F. Vakilchap, **S.M. Mousavi**, "*Bio-hydrometallurgical Methods for Recycling Spent Lithium-Ion Batteries*", In: Liang An (Eds): Recycling of Spent Lithium-Ion Batteries, 978-3-030-31833-8, Chapter 7, 2019, Published by **Springer-Nature**.
- 2- M. Baniasadi, **S.M. Mousavi,** "A Comprehensive Review on the Bioremediation of Oil Spills", In: Microbial Action on Hydrocarbons, Chapter 10, pp. 223-254, 2019, Published by **Springer (Singapore)**.
- 3- A. Jafari, **S.M. Mousavi**, H. Moteshaffi, H. Roohian, H. Hamedi Sangari, "Simulation of Hydrodynamics and Mass Transfer in a Valve Tray Distillation Column Using Computational Fluid Dynamics Approach", In: Advanced Topics in Mass Transfer, Chapter 13, pp. 265-280, 2011, Published by **InTech Publisher (Croatia)**.
- 4- T. Amani, **S.M. Mousavi**, M. Nosrati, "*CFD Simulation of Syntrophic Anaerobic Digestion of Volatile Fatty Acids in a Continuous Stirred Reactor*". In: Engineering Applications of Computational Fluid Dynamics, Chapter 11, pp. 403-435, 2011, Published by **International Energy and Environment Foundation**.
- 5- S.M. Mousavi, A. Jafari, S. Yaghmaei, M. Vossoughi, I. Turunen, "Experimental Investigation and Simulation of Ferrous Biooxidation and Flow Hydrodynamics in a Bubble Column Bioreactor using CFD Approach", In: Current Themes in Engineering Technologies, Ao, Sio-Iong, Amouzegar, Mahyar A., Chen, Su-Shing (Eds.), Published by American Institute of Physics (AIP), pp. 68-82, 2008.
- 6- **S.M. Mousavi**, "Investigation of Single Phase Approximation and Mixture Model on Flow Behaviour and Heat Transfer of a Ferrofluid using CFD Simulation", In: Advances in Computational Algorithms and Data Analysis, Ao, Sio-Iong; Rieger, Burghard; Chen, Su-Shing (Eds.), Published by **Springer**, pp. 495-507, 2008.

National Patents:

1- M. Arshadi, **S.M. Mousavi**, "Recovery of gold, copper and nickel from discarded mobile phone PCBs using Acidithiobacillus ferrooxidans and Bacillus megaterium", Registration No.: 85826, **2015**. Evaluated by: Iranian Research Organization for Science and Technology.

- 2- N. Bahaloo-Horeh, **S.M. Mousavi**, "Bioleaching of metals from spent lithium-ion mobile phone batteries using adapted Aspergillus niger", Registration No.: 90241, **2016**. Evaluated by: Iranian Research Organization for Science and Technology.
- 3- H. Hosseini, M. Kokabi, **S.M. Mousavi**, "Fabrication of nanofiber aerogel based on bacterial cellulose using supercritical method", Registration No.: 90163, **2017**. Evaluated by: Iranian Research Organization for Science and Technology.
- 4- H. Hosseini, M. Kokabi, **S.M. Mousavi**, "Fabrication of conductive nanocomposite aerogel using supercritical method based on bacterial cellulose/reduced graphene oxide", Registration No.: 93843, **2018**. Evaluated by: Iranian Research Organization for Science and Technology.
- 5- H. Hosseini, M. Kokabi, **S.M. Mousavi**, "Fabrication of smart nanocomposite aerogel using supercritical method based on bacterial cellulose/multiwall carbon nanotubes as bio-mechanical sensor", Registration No.: 93751, **2018**. Evaluated by: Iranian Research Organization for Science and Technology.
- 6- S.O. Rastegar, **S.M. Mousavi**, S.A. Shojaosadati, **2014**, "Bioleaching of Vanadium from Power Plants Residuals".
- 7- M. Motaghed, **S.M. Mousavi**, S.A. Shojaosadati, S.O. Rastegar, **2014**, "Bioleaching of Platinum and Rhenium from Refinery Spent Catalyst using a Cyanogenic Bacterium".
- 8- O. Ravanshad, **S.M. Mousavi**, S.A. Shojaosadati, **2014**, "A New Method for Hydrolysis of Microalgae".
- 9- F. Rezvani, S. Hashemi-Najafabadi, **S.M. Mousavi**, S.A. Shojaosadati, S. Saharkhiz, **2012**, "Phenol Removal from Industrial Wastewater using Soybean Hulls in a Packed Bed Bioreactor".

Journal Papers:

- 1- **S.M. Mousavi**, S. Yaghmaei, M. Vossoughi, A. Jafari, and S. A. Hoseini, *2005*, "Comparison of Bioleaching Ability of Two Native Mesophilic and Thermophilic Bacteria on Copper Recovery from Chalcopyrite Concentrate in an Airlift Bioreactor", *Hydrometallurgy*, *80*, *1-2*, *pp 139-144*. (Impact factor: 2.027)
- 2- S.M. Mousavi, A. Jafari, S. Yaghmaei, M. Vossoughi, and R. Roostaazad, 2006, "Bioleaching of low-grade sphalerite using a column reactor", Hydrometallurgy, 82, 1-2, pp 75-82. (Impact factor: 2.027)

- 3- S.M. Mousavi, S. Yaghmaei, F. Salimi, and A. Jafari, 2006, "Influence of process variables on biooxidation of ferrous sulfate by an indigenous Acidithiobacillus ferrooxidans. Part I: Flask experiments", Fuel, 85,17-18, pp 2555-2560. (Impact factor: 3.248)
- 4- S.M. Mousavi, A. Jafari, S. Yaghamei, M. Vossoughi and P. Sarkomaa, 2006, "Computer simulation of fluid motion in a porous bed using a volume of fluid method: Application in heap leaching", Minerals Engineering, 19, 10, pp 1077-1083. (Impact factor: 1.352)
- 5- S.M. Mousavi, S. Yaghmaei, M. Vossoughi, A. Jafari, and R. Roostaazad, 2006, "Zinc Extraction from Iranian Low-Grade Complex Zinc-Lead Ore by Two Native Microorganisms: Acidithiobacillus ferrooxidans and Sulfobacillus", International Journal of Mineral Processing, 80, 2-4, pp 238-243. (Impact factor: 1.304)
- 6- S.M. Mousavi, M. Vossoughi, S. Yaghmaei, and A. Jafari, 2006, "Copper Recovery from Chalcopyrite Concentrate by an Indigenous Acidithiobacillus ferrooxidans in an Air-Lift Bioreactor", Iranian Journal of Chemistry and Chemical Engineering, 25, 3, pp 21-26. (Impact factor: 0.25)
- 7- S.M. Mousavi, I. Alemzadeh, and M. Vossoughi, 2006, "Use of Modified Bentonite for Phenolic Adsorption in Treatment of Olive Oil Mill Wastewater", Iranian Journal of Science and Technology, 30, B5, pp 613-619. (Impact factor: 0.375)
- 8- A. Jafari, P. Zamankhan, and S.M. Mousavi, 2006, "Computer simulation of flocs interactions: Application in fiber suspension", Colloids and Surfaces A: Physicochemical and Engineering Aspects, 292, 2-3, pp 99-109. (Impact factor: 2.359)
- 9- A. Jafari, P. Zamankhan, S.M. Mousavi, and K. Henttinen, 2006, "Multiscale modeling of fluid turbulence and flocculation in fiber suspensions", Journal of Applied Physics, 100, 3. (DOI information: 10.1063/1.2218034)
- 10- S.A. Hosseini, S. Yaghmaei, S.M. Mousavi, and A. Jadidi, 2006, "Biodesulfurization of Dibenzothiophene by a Newly Isolated Thermophilic Bacteria Strain", Iranian Journal of Chemistry and Chemical Engineering, 25, 3, pp 65-71. (Impact factor: 0.25)
- 11- S.M. Mousavi, S. Yaghmaei, M. Vossoughi, A. Jafari, R. Roostaazad, and I. Turunen, 2007, "Bacterial leaching of low-grade ZnS concentrate using indigenous mesophilic and thermophilic strains", Hydrometallurgy, 85, 1, pp 59-65. (Impact factor: 2.027)
- 12- S.M. Mousavi, S. Yaghmaei, and A. Jafari, 2007, "Influence of process variables on biooxidation of ferrous sulfate by an indigenous Acidithiobacillus ferrooxidans. Part II: Bioreactor experiments", Fuel, 86,7-8, pp 993-999. (Impact factor: 3.248)

- 13- S.M. Mousavi, S. Yaghmaei, M. Vossoughi, and A. Jafari, 2007, "Efficiency of copper bioleaching of two mesophilic and thermophilic bacteria isolated from chalcopyrite concentrate of Kerman Yazd regions in Iran", Scientia Iranica, 14, 2, pp 180-184. (Impact factor: 0.242)
- 14- S.M. Mousavi, S. Yaghmaei, A. Jafari, M Vossoughi, and Z. Ghobadi, 2007, "Optimization of ferrous biooxidation rate in a packed bed bioreactor using Taguchi approach", *Chemical Engineering & Process Intensification*, 46, 10, pp 935-940. (Impact factor: 1.924)
- 15- S.M. Mousavi, P. Zamankhan, and A. Jafari, 2008, "Computer simulations of sodium formate solution in a mixing tank", Communications in Nonlinear Science and Numerical Simulation, 13, 2, pp 380-399. (Impact factor: 2.806)
- 16- **S.M. Mousavi**, S. Yaghmaei, M. Vossoughi, R. Roostaazad, A. Jafari, M. Ebrahimi, O. Habibollahnia Chabok, and I. Turunen, 2008, "The effects of Fe (II) and Fe (III) concentration and initial pH on microbial leaching of low-grade sphalerite ore in a column reactor", Bioresource Technology, 99, pp 2840-2845. (Impact factor: 4.98)
- 17- A. Jafari, S.M. Mousavi, and P. Kolari, 2008, "Numerical investigation of blood flow. Part I: In microvessel bifurcations", Communications in Nonlinear Science and Numerical Simulation, 13, pp 1615-1626. (Impact factor: 2.806)
- 18- S.M. Mousavi, A. Jafari, S. Yaghmaei, M. Vossoughi, and I. Turunen, 2008, "Experiments and CFD simulation of ferrous biooxidation in a bubble column bioreactor", Computers & Chemical Engineering, 32, pp 1681-1688. (Impact factor: 2.404)
- 19- A. Jafari, T. Tynjala, **S.M. Mousavi**, P. Sarkomaa, **2008**, "CFD simulation and evaluation of controllable parameters effect on thermomagnetic convection in ferrofluids using Taguchi technique" **Computers & Fluids**, **37**, **pp** 1344-1353. (Impact factor: 1.810)
- 20- A. Jafari, T. Tynjala, **S.M. Mousavi**, P. Sarkomaa, **2008**, "Simulation of heat transfer in a ferrofluid using computational fluid dynamics technique" **International Journal of Heat and Fluid Flow**, **29**, pp 1197-1202. (Impact factor: 1.927)
- 21- A. Jafari, S.M. Mousavi, and P. Kolari, 2009, "Numerical investigation of blood flow. Part II: In capillaries", Communications in Nonlinear Science and Numerical Simulation, 14, pp 1396-1402. (Impact factor: 2.806)
- 22- A. Jafari, S.M. Mousavi, K. Pietarinen and P. Sarkomaa, 2008, "Modeling and CFD simulation of flow behavior and dispersivity through randomly packed bed reactors", Chemical Engineering Journal, 144, pp 476-482. (Impact factor: 3.681)
- 23- R. Dehghan, M. Noaparast, M. Kolahdoozan, S.M. Mousavi, 2008, "Statistical evaluation and optimization of factors affecting the leaching performance of a sphalerite concentrate", International Journal of Mineral Processing, 89, pp 9-16. (Impact factor: 1.304)

- 24- S.M. Mousavi, A. Jafari, S. Chegini, and I. Turunen, 2009, "CFD simulation of mass transfer and flow behaviour around a single particle in bioleaching process", Process Biochemistry, 44, 696-703.. (Impact factor: 2.627)
- 25- M. Soleimani, S. Hosseini, R.Roostaazad, J. Petersen, S.M. Mousavi, A. Kazemi Vasiri, 2009, "Microbial leaching of a low-grade sphalerite ore using a draft tube fluidized bed bioreactor", Hydrometallurgy, 99(3-4), pp 131-136. (Impact factor: 2.027)
- 26- B. Ebrahimi, S.A. Shojaosadati, S.O. Raanaie, S.M. Mousavi, 2010, "Optimization and evaluation of acetylcholine esterase immobilization using response surface methodology", Process Biochemistry, 45(1), pp 81-87. (Impact factor: 2.627)
- 27- J. V. Mehrabani, M. Noaparast, **S.M. Mousavi**, R. Dehghan, **2010**, "Process optimization and modelling of sphalerite flotation from a low grade Zn-Pb ore using response surface methodology", **Separation and Purification Technology**, **72**, **242-249**. (Impact factor: **2.921**)
- 28- J. V. Mehrabani, M. Noaparast, **S.M. Mousavi**, R. Dehghan, E. Rasooli, H. Hajizadeh, **2010**, "Depression of pyrite in the flotation of high pyrite low grade lead-zinc ore using Acidithiobacillus ferrooxidans", *Minerals Engineering*, **23(1)**, pp 10-16. (Impact factor: 1.352)
- 29- B. Ebrahimi, S.A. Shojaosadati, **S.M. Mousavi**, **2010**, "Evaluation and optimization of factors affecting the performance of a flow-through system based on immobilized acetylcholine esterase as a biosensor", Biotechnology and Bioprocess Engineering, 15, pp383-391. (Impact factor: 1.278)
- 30- B. Ebrahimi, S.A. Shojaosadati, S.M. Mousavi, 2010, "A new changeable bioreactor for organophosphate detection in a flow-through system", 8(3), pp138-145, Iranian Journal of Biotechnology.
- 31- M. Hashemi, S.H. Razavi, S.A. Shojaosadati, S.M. Mousavi, K. Khajeh, and M. Safari, 2010, "Development of a solid-state fermentation process for production of an alpha amylase with potentially interesting properties", 110(3), 333–337, Journal of Bioscience and Bioengineering. (Impact factor: 1.793)
- 32- S.M. Mousavi, S.A. Shojaosadati, J. Golestani, F. Yazdian, 2010, "CFD simulation and optimization of effective parameters for the biomass production in a propeller loop bioreactor using Taguchi method" 49, 1249–1258, Chemical Engineering & Processing: Process Intensification. (Impact factor: 1.924)
- 33- F. Amiri, S. Yaghmaei, S.M. Mousavi, 2010, "Comparison of different methods in bioleaching of tungsten rich spent hydro-cracking catalyst using adapted Penecillum

- *simplicissimum BBRC-20019*" *Chemical Engineering Transactions*, Volume **21**, Editor J. J. Klemeš, H. L. Lam, P. S. Varbanov.
- 34- S.O. Rastegar, S.M. Mousavi, S.A. Shojaosadati, S. Sheibani, 2011, "Optimization of petroleum refinery effluent treatment in a UASB reactor using response surface methodology", 197, 26–32, Journal of Hazardous Materials. (Impact factor: 4.553)
- 35- M. Hashemi, **S.M. Mousavi**, S.H. Razavi, S.A. Shojaosadati, **2011**, "Mathematical modeling of biomass and alpha-amylase production kinetics by Bacillus sp. in solid-state fermentation based on solid dry weight variation" **53**, **159–164**, **Biochemical Engineering Journal**. (Impact factor: **2.769**)
- 36- F. Amiri, S. Yaghmaei, S.M. Mousavi, 2011, "Bioleaching of tungsten-rich spent hydrocracking catalyst using Penicillium simplicissimum", 102, 1567–1573, Bioresource Technology. (Impact factor: 4.98)
- 37- T. Amani, M. Nosrati, **S.M. Mousavi**, **2011**, "Using enriched cultures for elevation of anaerobic syntrophic interactions between acetogens and methanogens in a high-load continuous digester", **102**, 3716–3723, Bioresource Technology. (Impact factor: 4.98)
- 38- T. Amani, M. Nosrati, **S.M. Mousavi**, R.K. Kermanshahi, **2011**, "Modeling and statistical optimization of mesophilic anaerobic digestion of volatile fatty acids using enriched cultures", 8(1), 83-96, International Journal of Environmental Science and Technology. (Impact factor: 3.051)
- 39- R. Mafi Gholami, S.M. Borghei, **S.M. Mousavi**, **2011**, "Bacterial leaching of a spent Mo–Co–Ni refinery catalyst using Acidithiobacillus ferrooxidans and Acidithiobacillus thiooxidans", *Hydrometallurgy*, **106**, **26-31**. (Impact factor: **2.027**)
- 40- M. Soleimani, J. Petersen, R. Roostaazad, S. Hosseini, S.M. Mousavi, A. Najafi, A. Kazemi Vasiri, 2011, "Leaching of a zinc ore and concentrate using the Geocoat™ technology", Minerals Engineering, 24, 64–69. (Impact factor: 1.352)
- 41- M. Hashemi, S.H. Razavi, S.A. Shojaosadati, S.M. Mousavi, 2011, "The potential of brewer's spent grain to improve the production of a-amylase by Bacillus sp.KR-8104 insubmerged fermentation system", New Biotechnology, 28, 165-172. (Impact factor: 2.756)
- 42- B. Ebrahimi, S.A. Shojaosadati, P. Daneshgar, P. Norouzi, **S.M. Mousavi, 2011,** "Performance evaluation of fast Fourier-transform continuous cyclic-voltammetry pesticide biosensor", Analytica Chimica Acta, 687, 168-176. (Impact factor: 4.144)
- 43- M. Hashemi, S.A. Shojaosadati, S.H. Razavi, **S.M. Mousavi, 2011,** "Evaluation of Caindependent α -amylase production by Bacillus sp. KR-8104 in submerged and solid state fermentation systems", **9(3), pp188-196, Iranian Journal of Biotechnology.**

- 44- J. V.Mehrabani, S.M. Mousavi, M. Noaparast, 2011, "Evaluation of the replacement of NaCN with Acidithiobacillus ferrooxidans in the flotation of high-pyrite, low-grade lead-zinc ore", 80, 202-208, Separation and Purification Technology. (Impact factor: 2.921)
- 45- F. Amiri, S.M. Mousavi, S. Yaghmaei, 2011, "Enhancement of bioleaching of a spent Ni/Mo hydroprocessing catalyst by Penicillium simplicissimum", 80, 566-576, Separation and Purification Technology. (Impact factor: 2.921)
- 46- F. Amiri, S. Yaghmaei, S.M. Mousavi, S. Sheibani, 2011, "Recovery of metals from spent refinery hydrocracking catalyst using adapted Aspergillus niger", 109, 65-71, Hydrometallurgy. (Impact factor: 2.027)
- 47- T. Tavassoli, S.M. Mousavi, S.A. Shojaosadati, H. Salehizadeh, 2012, "Asphaltene biodegradation using microorganisms isolated from oil samples", 93, 142-148, Fuel. (Impact factor: 3.248)
- 48- R. Mafi Gholami, **S.M. Mousavi**, S.M. Borghei, **2012**, "Process optimization and modeling of heavy metals extraction from a molybdenum rich spent catalyst by Aspergillus niger using response surface methodology", **18**, **218-224**, **Journal of Industrial and Engineering Chemistry**. (Impact factor: **1.977**)
- 49- T. Amani, M. Nosrati, **S.M. Mousavi, 2012,** "Response surface methodology analysis of anaerobic syntrophic degradation of volatile fatty acids in an upflow anaerobic sludge bed reactor inoculated with enriched cultures", 17, 133-144, Biotechnology and Bioprocess Engineering. (Impact factor: 1,278)
- 50- M. Hashemi, S.A. Shojaosadati, S.H. Razavi, **S.M. Mousavi**, K. Khajeh, M. Safari, **2012**, "The efficiency of temperature-shift strategy to improve the production of alpha amylase by Bacillus sp. in a solid state fermentation system", **5**, **1093-1099**, **Food and Bioprocess Technology:** An International Journal. (Impact factor: 3.703)
- 51- H. Moteshafi, S.M. Mousavi, S.A. Shojaosadati, 2012, "The possible mechanisms involved in nanoparticles biosynthesis", 18, 2046-2050, Journal of Industrial and Engineering Chemistry. (Impact factor: 1.977)
- 52- F. Amiri, S.M. Mousavi, S. Yaghmaei, M. Barati, 2012, "Bioleaching kinetics of a spent refinery catalyst using Aspergillus niger at optimal condition" Biochemical Engineering Journal, 67, 208–217. (Impact factor: 2.769)
- 53- D. Mazaheri, S.A. Shojaosadati, S.M. Mousavi, P. Hejazi, S. Saharkhiz, 2012, "Bioethanol production from carob pods by solid-state fermentation with Zymomonas mobilis", Applied Energy, 99, 372–378. (Impact factor: 5.106)

- 54- T. Amani, M. Nosrati, S.M. Mousavi, 2012, "Analysis of the Syntrophic Anaerobic Digestion of Volatile Fatty Acids Using Enriched Cultures in a Fixed-Bed Reactor", Water Environment Research, 84, 460-472. (Impact factor: 0.883)
- 55- F. Rezvani, S. Hashemi-Najafabadi, **S.M. Mousavi**, S.A. Shojaosadati, S. Saharkhiz, **2012**, "Optimization of the removal of phenol by soybean seedcoats using response surface methodology", Water Science and Technology, 66, 2229-2236. (Impact factor: 1.122)
- 56- M. Hashemi, **S.M. Mousavi**, S.H. Razavi, S.A. Shojaosadati, **2013**, "Comparison of submerged and solid state fermentation systems effects on the catalytic activity of Bacillus sp. KR-8104 α-amylase at different pH and temperatures", **43**, **661–667**, Industrial Crops and Products. (Impact factor: 2.468).
- 57- I. Asghari, S.M. Mousavi, F. Amiri, S. Tavassoli, 2013, "Bioleaching of spent refinery catalysts: A review", 19, 1069-1081, Journal of Industrial and Engineering Chemistry. (Impact factor: 2.145)
- 58- E. Amini, M.R. Mehrnia, **S.M. Mousavi**, N. Mostoufi, **2013**, "Experimental Study and Computational Fluid Dynamics Simulation of a Full-Scale Membrane Bioreactor for Municipal Wastewater Treatment Application", **52**, **9930-9939**, Industrial and Engineering Chemistry Research. (Impact factor: 2.206).
- 59- F. Gerayeli, F. Ghojavand, S.M. Mousavi, S. Yaghmaei, F. Amiri, 2013, "Screening and optimization of effective parameters in biological extraction of heavy metals from refinery spent catalysts using a thermophilic bacterium", 118, 151-161, Separation and Purification Technology. (Impact factor: 2.894).
- 60- F. Hoobakht, F. Ganji, E. Vasheghani-Farahani, **S.M. Mousavi, 2013**, "Eudragit RS PO nanoparticles for sustained release of pyridostigmine bromide", 15:1912, Journal of Nanoparticle Research. (Impact factor: 2.175).
- 61- S.E. Hashemi, A. Rezaee, M.R. Nikodel, H. Ganjidost, **S.M. Mousavi, 2013**, "Equilibrium and kinetic studies of the adsorption of sodium dodecyl sulfate from aqueous solution using bone char", 109, 433–446, Reaction Kinetics and Mechanisms and Catalysis. (Impact factor: 1.104).
- 62- M. Motaghed, **S.M. Mousavi**, S.O. Rastegar, S.A. Shojaosadati, **2014**, "Platinum and rhenium extraction from a spent refinery catalyst using Bacillus megaterium as a cyanogenic bacterium: Statistical modeling and process optimization", **171**, **401-409**, **Bioresource Technology**. (Impact factor: **5.06**).
- 63- M. Arshadi, S.M. Mousavi, 2014, "Simultaneous recovery of Ni and Cu from computer-printed circuit boards using bioleaching: Statistical evaluation and optimization", 174, 233-242, Bioresource Technology. (Impact factor: 5.06).

- 64- S.O. Rastegar, S.M. Mousavi, S.A. Shojaosadati, 2014, "Cr and Ni recovery during bioleaching of dewatered metal-plating sludge using Acidithiobacillus ferrooxidans", 167, 61-68, Bioresource Technology. (Impact factor: 5.06).
- 65- N. Nasirpour, S.M. Mousavi, S.A. Shojaosadati, 2014, "A novel surfactant-assisted ionic liquid pretreatment of sugarcane bagasse for enhanced enzymatic hydrolysis", 169, 33-37, Bioresource Technology. (Impact factor: 5.06).
- 66- M. Ijadi Bajestani, S.M. Mousavi, S.A. Shojaosadati, 2014, "Bioleaching of heavy metals from spent household batteries using Acidithiobacillus ferrooxidans: Statistical evaluation and optimization", 132, 309-316, Separation and Purification Technology. (Impact factor: 3.065).
- 67- M. Shahrabi-Farahani, S. Yaghmaei, **S.M. Mousavi**, F. Amiri, **2014**, "Bioleaching of heavy metals from a petroleum spent catalyst using Acidithiobacillus thiooxidans in a slurry bubble column bioreactor", **132**, **41-49**, **Separation and Purification Technology**. (Impact factor: **3.065**).
- 68- I. Asghari, S.M. Mousavi, 2014, "Effects of key parameters in recycling of metals from petroleum refinery waste catalysts in bioleaching process", 13, 139–161, Reviews in Environmental Science and Bio/Technology. (Impact factor: 2.263).
- 69- S.O. Rastegar, S.M. Mousavi, M. Rezaei, S.A. Shojaosadati, 2014, "Statistical evaluation and optimization of effective parameters in bioleaching of metals from molybdenite concentrate using Acidianus brierleyi", 20, 3096-3101, Journal of Industrial and Engineering Chemistry. (Impact factor: 2.063).
- 70- L. Omidvar Langroudi, H. Palavanzadeh, S.M. Mousavi, 2014, "Statistical evaluation of a liquid desiccant dehumidification system using RSM and theoretical study based on the effectiveness NTU model", 20, 2975-2983, Journal of Industrial and Engineering Chemistry. (Impact factor: 2.063).
- 71- J. V. Mehrabani, S.Z. Shafaei, M. Noaparast, **S.M. Mousavi, 2014**, "Bioleaching of high pyrite carbon-rich sphalerite preflotation tailings", 71, 4675–4682, Environmental Earth Sciences. (Impact factor: 1.572).
- 72- Z. Noori Felegari, B. Nematdoust Haghi, Gh. Amoabediny, S.M. Mousavi, M. Amouei Torkmahalleh, 2014, "An optimized integrated process for the bioleaching of a spent refinery processing catalysts", 8, 621-634, International Journal of Environmental Research. (Impact factor: 1.993).
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- 168- H. Zamani, A. Jafari, S.M. Mousavi, E. Darezereshki, 2020, "Biosynthesis of silica nanoparticle using Saccharomyces cervisiae and its application on enhanced oil recovery", Journal of Petroleum Science and Engineering 190, 107002, (Impact factor: 3.706).
- 169- M. Ijadi Bajestani, S. Kader, M. Monavarian, **S.M. Mousavi**, E. Jabbari, A. jafari, **2020**, "Material properties and cell compatibility of poly (.-glutamic acid)-keratin hydrogels", **International Journal of Biological Macromolecule**, **142**, **790-802** (**Impact factor: 5.162**).
- 170- H. Azarhava, M. Ijadi, A. Jafari, F. Vakilchap, **S.M. Mousavi**, **2020**, "Production and physicochemical characterization of bacterial poly gamma- (glutamic acid) to investigate its performance on enhanced oil recovery", **International Journal of Biological Macromolecule**, **147**, **1204-1212** (**Impact factor: 5.162**).
- 171- H. Hosseini, A. Zirakjou, V. Goodarzi, S.M. Mousavi, H.A. Khonakdar, S. Zamanlui, 2020, "Lightweight aerogels based on bacterial cellulose/silver nanoparticles/polyaniline with tuning morphology of polyaniline and application in soft tissue engineering", International Journal of Biological Macromolecules 152, 57-67, (Impact factor: 5.162).
- 172- F. Mansouri, A. Khavanin, A.J Jafari, H. Asilian, H.R. Ghomi, **S.M. Mousavi**, **2020**, "Energy efficiency improvement in nitric oxide reduction by packed DBD plasma: optimization and modeling using response surface methodology (RSM)", **Environmental Science and Pollution Research**, **1-10**, (Impact factor: **3.056**).

<u>Selected papers in national conferences:</u>

- 1- S.M. Mousavi, S. Yaghmaei, M. Vossoughi, A. Jafari, and M.S. Jafari, "Copper Recovery from Chalcopyrite Concentrate by Indigenous Mesophilic and Thermophilic Bacteria", 10th Iranian Chemical engineering congress, November 23-25, 2005, Zahedan, Iran.
- 2- **S.M. Mousavi,** S. Yaghmaie, and S.A. Hosseini, "Biohydrometalurgy: Best selection in economic and technology", **9**th Iranian Chemical engineering congress, November 23-25, 2004, Tehran, Iran.
- 3- S.A. Hosseini, S. Yaghmaie, **S.M. Mousavi**, and A. Jadidi, "Isolation of a New Indigenous Thermophilic Strain and Investigation of Its Ability toward Biodesulfurization", 9th Iranian Chemical engineering congress, November 23-25, 2004 (Opted as one the best papers in congress by the congress jury), Tehran, Iran.
- 4- **S.M. Mousavi,** I. Alemzadeh, and M. Vossoughi, "Modification of Mineral Clays with Quaternary Ammonium Compounds as Adsorbent of Phenol and Phenolic Compounds from Olive Mill Wastewater", 13th National Congress on Food Industries, October 24-25, 2002, Tehran, Iran.
- 5- A. Kaffash, S. Yaghmaei, S.M. Mousavi, "Computational Fluid Dynamics Simulation of Bioleaching Process in a Bubble Column Reactor for Spent Catalysts Metals", The 15th Iranian National Congress of Chemical Engineering (IChEC), February 17-19, 2015, Tehran, Iran.
- 6- A. Haghtalab, J. Yousefi Seyf, **S.M. Mousavi**, "Vapor Liquid Equilibrium Calculation for Binary Mixtures Using Molecular Dynamics Simulation", **The 15th Iranian National Congress of Chemical Engineering (IChEC)**, February 17-19, 2015, Tehran, Iran.
- 7- M.J. Jowkar, S.M. Mousavi, "A biological approach for Indium extraction from discarded liquid crystal displays (LCDs)", Conferences on Chemical & Materials Engineering, June 2, 2016, Tehran, Iran.

Selected papers in international conferences:

- 1- **S.M. Mousavi,** I. Alemzadeh, and M. Vossoughi, "Modification of Mineral Clays by Hexadecyltrimethyl Ammonium as Adsorbent of Fatty acids and Resin acids from Wasrewater", 5th International Conference and Exhibition on CHEMISTRY IN INDUSTRY, October 14-16, 2002, Bahrain.
- 2- S.M. Mousavi, M. Vossoughi, and S. Yaghmaie, "Modeling of Copper Recovery from Sulfide Minerals by Native Thiobacillus ferrooxidans in a Fluidized Bed Bioreactor", International Biohydrometallurgy Symposium conference, September 25-29, 2005, Cape Town, South Africa.
- 3- S.M. Mousavi, M. Vossoughi, and S. Yaghmaei, "Copper Recovery from Chalcopyrite Concentrate by an Indigenous Acidithiobacillus ferrooxidans with an Airlift Bioreactor", **Bio and Hydromet '05 Conference**, May 14-16, 2005, Cape Town, South Africa.

- 4- S.M. Mousavi, P. Zamankhan, S. Yaghamei, A. Jafari, and A. Jarrahian, "Detailed Modeling of Heap Type Reactors Used in Metal Extraction Processes" Computational Modelling in Mineral Processing Conference, November 7-9, 2005, Cape Town, South Africa.
- 5- **S.M. Mousavi,** S. Yaghmaei, M. Vossoughi, and A. Jafari, "Comparison of Bioleaching Ability of Two Native Mesophilic and Thermophilic Bacteria on Copper Recovery from Chalcopyrite Concentration: in Airlift Bioreactor and Shake Flask" 10th Mediterranean Congress of Chemical Engineering, November 15-18, 2005, Barcelona, Spain.
- 6- A. Jafari, P. Zamankhan, S.M. Mousavi, and P. Kolari "Modeling of Blood Flow in Microvessels" EMBEC'05-THE 3rd EUROPEAN MEDICAL AND BIOLOGY ENGINEERING CONFERENCE, November 20-25, 2005, Prague, Czech Republic.
- 7- A. Jafari, S.M. Mousavi, P. Kolari, and P. Zamankhan, "Simulation of Blood Flow through a Microvessel Branching" The Fourth IASTED International Conference on BIOMEDICAL ENGINEERING ~BioMED 2006~ (pp. 31-38), February 15-17, 2006, Innsbruck, Austria.
- 8- S.M. Mousavi and P. Zamankhan, "LARGE EDDY SIMULATIONS OF A BRINE-MIXING TANK", 25th International Conference on Offshore Mechanics and Arctic Engineering (OMAE 2006, paper number: 92082), June 4-9, 2006, Hamburg, Germany.
- 9- A. Jafari, P. Zamankhan, S.M. Mousavi, K. Pietarinen, and P. Sarkomaa, "Investigation of Flow Dynamics in Porous Media using Computer Simulation", 20th annual European Simulation and Modeling Conference (ESM'2006, paper code: FLUID-03, pp. 157-163), October 23-25, 2006 LAAS, Toulouse, France.
- 10- S.M. Mousavi, A. Jafari, S. Yaghmaei, M. Vossoughi, I. Turunen, M.R. Kamali, and P. Sarkomaa, "CFD Simulation of concentration profiles and velocity field. Application: in bioleaching process", 17th European Symposium on Computer Aided Process Engineering (ESCAPE17, paper code: T4-458), May 27-30, 2007, Bucharest, Romania.
- 11- A. Jafari, T. Tynjälä, **S.M. Mousavi**, and P. Sarkomaa, "*CFD Simulation of heat transfer in ferrofluids*", **European Congress of Chemical Engineering -6 (ECCE-6),** September 16-21, 2007, Copenhagen, Denmark.
- 12- H. Yousefi, S.M. Mousavi, A. Jafari, A. Soleymani, "Prediction of biological ferrous oxidation rate using artificial neural network", North-American Simulation Technology Conference (NASTEC'08), August 13-15, 2008, Montreal (Quebec), Canada.
- 13- A. Jafari, S.M. Mousavi, T. Tynjala, P. Sarkomaa, "CFD Simulation of Gravitational Sedimentation and Clustering Effects on Heat Transfer of a Nano-ferrofluid", Progress in Electromagnetics Research Symposium (PIERS 2009), March 23–27, 2009, Beijing, China.

- 14- O. Ravanshad, N. Nasirpour, **S.M. Mousavi**, S.A. Shojaosadati, "*Investigation of Microalgae Hydrolysis for Bioethanol Production*", **The 8th International Chemical Engineering Congress & Exhibition (IChEC)**, February 24-27, 2014, Kish, Iran.
- 15- N. Nasirpour, **S.M. Mousavi**, S.A. Shojaosadati, O. Ravanshad, "A Novel Surfactant-assisted Ionic Liquid Pretreatment of Sugarcane Bagasse for Enhanced Enzymatic Hydrolysis", **The 8th International Chemical Engineering Congress & Exhibition (IChEC),** February 24-27, 2014, Kish, Iran.
- 16- M. Ijadi, S.M. Mousavi, S.A. Shojaosadati, "Bioleaching of Heavy Metals from Spent Household Batteries", The 8th International Chemical Engineering Congress & Exhibition (IChEC), February 24-27, 2014, Kish, Iran.
- 17- M. R. Samadzadeh Yazdi, M. Abdollahy, S.M. Mousavi, A. khodadadi, "Adaptation of acidophilic thermophile Acidianus brierleyi with chalcopyrite concentrate for copper recovery via bioleaching", The 8th International Chemical Engineering Congress & Exhibition (IChEC), February 24-27, 2014, Kish, Iran.
- 18- S. M. Soleymani, A. R. Majdi Nasab, M. Nosrati, S. M. Mousavi, "Investigation of Biological Nutrient Removal Performance in a Modified Step Feed Process", The 8th International Chemical Engineering Congress & Exhibition (IChEC), February 24-27, 2014, Kish, Iran.
- 19- P. Rasoulnia, S.M. Mousavi, "A comparison between spent-medium bioleaching and chemical leaching of V and Ni from an oil-fired ash produced in power plant furnaces", The 9th International Chemical Engineering Congress & Exhibition (IChEC), December 26-28, 2015, Shiraz, Iran.
- 20- N. Bahaloo Horeh, S.M. Mousavi, S. A. Shojaosadati, F. Vakilchap, "Bioleaching of spent mobile phone batteries using adapted Aspergillus niger", The 9th International Chemical Engineering Congress & Exhibition (IChEC), December 26-28, 2015, Shiraz, Iran.
- 21- F. Vakilchap, S.M. Mousavi, S. A. Shojaosadati, N. Bahaloo Horeh, "Bioleaching process for recovery of valuable elements from red mud by Aspergillus niger", The 9th International Chemical Engineering Congress & Exhibition (IChEC), December 26-28, 2015, Shiraz, Iran.
- 22- H. Qavam Saeedi, A. Pirouzi, M. Nosrati, **S.M. Mousavi**, "A liquid velocity correlation for a triangular external airlift photo bioreactor with counter-current flow and doubled aeration from the down comer in addition to riser", **The 9th International Chemical Engineering Congress & Exhibition (IChEC)**, December 26-28, 2015, Shiraz, Iran.
- 23- P. Rasoulnia, S.M. Mousavi, "Bioleaching of Precious Metals from an Oil-Fired Ash Using Organic Acids Produced by Aspergillus niger in Shake Flasks and Bioreactor", International Journal of Chemical Engineering and Applications, August 14-16, 2016, Porto- Portugal.

24- H. Hosseini, M. Kokabi, **S.M. Mousavi**, "Bacterial Cellulose Nanofibers Aerogel Dried by Supercritical CO₂", **Proceedings of the 6th International Conference on Nanostructures** (ICNS6), March 7-10, 2016, Kish Island, Iran.

<u>Awards</u>

- * Scholarship from the Ministry of Science, Research and Technology, Tehran, Iran (2003-2007)
- * Research grant from Academy of Finland, Helsinki, Finland (2005-2006)
- * Scholarship from the Centre for International Mobility (CIMO), Helsinki, Finland (2006)
- * Academic Scholarship, Lappeenranta University of Technology, Lappeenranta, Finland (2006-2007)
- * Research grant from Academy of Finland, Helsinki, Finland (2007)

Membership associations:

- * Member of Iranian chemical engineering association
- * Member of Iranian food engineering association
- * Member of Iranian nanotechnology association

Reviewer of the following journals:

- Applied Microbiology and Biotechnology
- Biochemical Engineering Journal
- Bioresource Technology
- Biotechnology Progress
- Chemical Engineering Journal
- Chemical Engineering & Processing: Process Intensification
- Critical Reviews in Biotechnology
- Fuel
- Hydrometallurgy

- Iranian Journal of Biotechnology
- Iranian Journal of Chemical Engineering
- Iranian Journal of Chemistry & Chemical Engineering
- Iranian Journal of Polymer Science and Technology
- Iranian Journal of water & wastewater
- Journal of Industrial and Engineering Chemistry
- Journal of Hazardous Materials
- Process Biochemistry
- Resources, Conservation and Recycling
- Separation and Purification Technology
- Waste Management

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