Seyed Morteza Zamir

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Educational background

PhD: Chemical Engineering, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran, 2007 -2011.

Msc: Chemical Engineering, Biotechnology, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran, 2005-2007.

Bsc: Chemical Engineering, Process Design, Iran University of Science and Technology, Tehran, Iran, 2000-2005.

Research Interests

- Environmental Biotechnology
- Multi-phase Bioreactors
- Bioreactors and Bioprocess Modeling and Design
- Waste-gas Biotreatment
- Biodegradation of hazardous compounds

Publications

1. Yousefinejad A., **Zamir S.M.**, Nosrati M. (2019), Fungal elimination of toluene vapor in one- and two-liquid phase biotrickling filters: Effects of inlet concentration, operating temperature, and peroxidase enzyme activity. Journal of Environmental Management **251**, 109554.

2. Boojari M.A., **Zamir S.M.**, Rene E.R., Shojaosadati, S.A. (2019), Performance assessment of gas-phase toluene removal in one- and two-liquid phase biotrickling filters using artificial neural networks. Chemosphere **234**, 388-394.

3. Boojari M.A., **Zamir S.M.** and Shojaosadati, S.A. (2018), Transient-state strategies for the removal of toluene vapor in a two-liquid phase biotrickling filter: Experimental study and neural network analysis, *Process Safety and Environmental Protection*, **121**, 184-193.
4. Tang J., Zhu N., Zhu Y., **Zamir S.M.** and Wu Y. (2018), Sustainable pollutant removal by periphytic biofilm via microbial composition shifts induced by uneven distribution of CeO2 nanoparticles, *Bioresource Technology*, **248**, 75-81.
5. Mazaheri, D., Shojaosadati, S.A., **Zamir, S.M.** and Mousavi, S.M. (2018), Mathematical modeling of ethanol production in solid-state fermentation based on solid medium' dry weight variation, *Preparative Biochemistry and Biotechnology*, **48**, 372-377.
6. Alinejad A., **Zamir S.M.** and Shojaosadati S.A. (2017), Different strategies for transient-state operation of a biotrickling filter treating toluene vapor, *Applied Microbiology and Biotechnology*, **101**, 3451-3462.
7. Eshraghi M., Parnian P., **Zamir S.M.** and Halladj R. (2017), Biofiltration of *n*-butanol vapor at different operating temperatures: Experimental study and mathematical modeling, *International Biodeterioration and Biodegradation.* **119**, 361-367.
8. Heidari H., Sedighi M., **Zamir S.M.** and Shojaosadati S.A. (2017), Bisphenol A degradation by *Ralstonia eutropha* in the absence and presence of phenol, *International Biodeterioration and Biodegradation*, **119**, 37-42.
9. Parnian P., **Zamir S.M.**, and Shojaosadati S.A. (2017), Effect of operating temperature on styrene mass transfer characteristics in a biotrickling filter, *Environmental Technology*, **38**, 1324-1332.
10. Yeganeh, M., Hosseini, H., Mehrabian, S., Torbati, E.S., and **Zamir, S.M.** (2017), Antibiofilm effects of lactobacilli against Ciprofloxacin-Resistant Uropathogenic *Escherichia coli* strains in pasteurized milk, *Applied Food Biotechnology*, **4**, 241-250.
11. Parnian P., **Zamir S.M.**, and Shojaosadati S.A. (2016), Styrene vapor mass transfer in a biotrickling filter: Effects of silicone oil volume fraction, gas-to-liquid flow ratio, and operating temperature, *Chemical Engineering Journal*, **284**, 926-933.
12. Sedighi M., **Zamir S.M.**, and Vahabzadeh F. (2016), Cometabolic degradation of ethyl mercaptan by phenol-utilizing *Ralstonia eutropha* in suspended growth and gas-recycling trickle-bed reactor, *Journal of Environmental Management*, **165**, 53-61.
13. Feizi F., Nasernejad B., and **Zamir S.M.** (2016), Effect of operating temperature on transient behavior of a biofilter treating waste-air containing *n*-butanol vapor during intermittent loading, *Environmental Technology*, **37**, 1179-1187.
14. **Zamir S.M.,** Babatabar B. and Shojaosadati S.A. (2015), Styrene vapor biodegradation in single- and two-liquid phase biotrickling filters using *Ralstonia eutropha*, *Chemical Engineering Journal*, **268**, 21-27.

15. Maleki M., Motamedi M., Sedighi M., **Zamir S.M.** and Vahabzadeh F. (2015), Experimental study and kinetic modeling of cometabolic degradation of phenol and p-nitrophenol by loofa-immobilized *Ralstonia eutropha*, *Biotechnology and Bioprocess Engineering*, **20**, 124-130.
16. Iranmanesh E., Halladj R. and **Zamir S.M.** (2015), Mickrokinetic analysis of *n-h*exane biodegradation by an isolated fungal consortium from a biofilter: Influence of temperature and toluene presence, *Clean-Soil, Air, Water*, **43**, 104-111.
17. **Zamir S.M.**, Ferdowsi M. and Halladj R. (2014), Effects of loading type and temperature on performance, transient operation, and kinetics of n-hexane vapor removal in a biofilter, *Water Air and Soil Pollution*, **225**, 1825.
18. Sedighi M., Vahabzadeh F., **Zamir S.M.** and Naderifar A. (2013), Ethanethiol degradation by *Ralstonia eutropha*, *Biotechnology and Bioprocess Engineering*, **18**, 827-833.
19. Salehahmadi R., Halladj R. and **Zamir S.M.** (2012), Unsteady-state mathematical modeling of a fungal biofilter treating hexane vapor at different operating temperatures, *Industrial and Engineering Chemistry Research*, **51**, 2388-2396.
20. **Zamir S.M.,** Halladj R., Sadraei S.M. and Nasernejad B. (2012), Biofiltration of gaseous hexane-toluene mixture under intermittent loading condition**,** *Process Safety and Environmental Protection*, **90,** 326-332.
21. **Zamir S.M.,** Halladj R., Saber M., Ferdowsi M. and Nasernejad B. (2011), Biofiltration of hexane vapor: Experimental and neural model analysis, *Clean-Soil, Air, Water*, **39**, 813-819.
22. **Zamir S.M.,** Halladj R. and Nasernejad B. (2011), Removal of toluene vapors using a fungal biofilter under intermittent loading, *Process Safety and Environmental Protection*, **89,** 8-14.
23. **Zamir S.M.,** Halladj R., Ferdowsi M. (2010), Influence of intermittent loading on the removal of high concentrations of VOCs in a biofilter, *International Review of Chemical Engineering*, **2**, 146-150.
24. Moghbeli M.R., **Zamir S.M.** and Molaee B. (2008), Resultant synergism in the shear resistance of acrylic pressure-sensitive adhesives prepared by emulsion polymerization of n-butyl acrylate/ 2-ethyl hexyl acrylate/ acrylic acid, *Journal of Applied Polymer Science*, **108,** 606-613.

Book Chapters

[1] Nasirpour N., **Zamir S.M. and** Shojaosadati S.A. (2017), Immobilization techniques for microbial bioremediation of toxic metals, In: "Handbook of Metal-Microbe Interactions and Bioremediation", Edited by Surajit Das and Hirak Ranjan Dash, Taylor & Francis Group, Boca Raton, FL, CRC Press 2017, Print ISBN: 978-1-4987-6242-7, eBook ISBN: 978-1-4987-6243-4.

[2] **Zamir S.M.,** Tavassoli T., and Shojaosadati S.A. (2016), Protocol for isolation, screening and cultivation of asphaltenes-degrading microorganism, In: "Hydrocarbon and Lipid Microbiology Protocols (Isolation and Cultivation)", Springer-Verlag Berlin Heidelberg, Germany, ISBN 978-3-662-45179-3.

[3] Lopez M.E, Montes M., Nalakath Abubackar H., **Zamir S.M.** and Rene E.R. (2012) Performance of biological waste gas treatment systems for benzene and other VOCs removal from polluted air, In: Benzene and Its Derivatives: New Uses and Impacts on Environment and Human Health, Nova Science Publishers Inc., Hauppauge, NY, USA, ISBN 978-1-69100-108-9.

Some international conference papers

[1] A. Yousefinejad, **S.M. Zamir**, S. Keramati, Biodegradation of toluene vapor by fungus *Phanerochaete chrysosporium* in a biotrickling filter, **7th Biotechniques for air pollution control and bioenergy**, La Coruna, Spain, 19-21 July 2017.

[2] **S.M. Zamir,** E.R. Rene, M.C. Veiga, C. Kennes, Effect of silicone oil addition on the removal of a mixture of methanol, α-pinene and hydrogen sulphide in a biotrickling filter, **6th Biotechniques for air pollution control and bioenergy**, Ghent, Belgium, 2015

[3] **S. M. Zamir**, R. Halladj, B. Nasernejad, Study of a fungal biofilter treating toluene vapors during intermittent loading, ***5th Iran International Chemical Engineering Congress***, Kish Island, 3-5 January 2008.

[4] **S. M. Zamir**, R. Halladj, M. Ferdowsi, B. Nasernejad, Influence of transient loading on the removal of high concentrations of VOCs in a biological air filter, presented in the ***6th Iran International Chemical Engineering Congress***, Kish Island, 16-20 November 2009.

[5] **S. M. Zamir**, R. Halladj, M. Ferdowsi, Biofiltration of hexane vapor under intermittent loading: effect of operating temperature and kinetic analysis, ***7th Iran International Chemical Engineering Congress***, Kish Island, 21-24 November 2011.

[6] R. Salehahmadi, R. Halladj, **S. M. Zamir**, Mathematical Model Development For Biofiltration of Hexane at different working temperatures, ***7th Iran International Chemical Engineering Congress***, Kish Island, 21-24 November 2011.

[7] E. Iranmanesh, R. Halladj, **S. M. Zamir**, Kinetic study of n-hexane biodegradation by an isolated fungal consortium from a biofilter, ***7th Iran International Chemical Engineering Congress***, Kish Island, 21-24 November 2011.

Research grants

1. Post-doc research fellowship, "Application of two-phase partitioning bioreactors for the removal of VOCs from waste gas", Tarbiat Modares University and Iran National Science Foundation, Grant No. 91060683, 2012-2014.

Courses taught

1. Transport Phenomena in Biological Systems
2. Kinetics and Biochemical Reaction Engineering
3. Environmental Biotechnology Processes
4. Numerical Analysis
5. Separation and Purification of Bio-products

Industrial experiences

- Process engineer in different basic design projects in Research Institute for Petroleum Industry (RIPI), 2008-2010

Advanced training programs

- Research vacancy (Sabbatical leave) at University of La Coruna (UDC), Supervisor: Prof. Christian Kennes, A Coruna, Spain, October 2011-April 2012.
- "Advanced separation technologies", Berlin University of Technology, Summer School, Berlin, Germany, August 2007.