Shabnam Mirizadeh

Nationality: Iranian
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Professional Summary

Researcher in Field of Biological Wastewater Treatment, Microalgae Cultivation, Biofuel production, Adsorption Process

Education

Ph.D. in Marine Sciences and Technologies; curriculum: Engineering for Marine and Coastal Environments, XXXVII cycle, at University of Genoa, Genoa, Italy (2021-to date)

- Thesis title: "Biosorption of emerging contaminants and heavy metals by magnetic chitosan/microalgae biocomposite"

Ph.D. in Chemical Engineering-Biotechnology at Tarbiat Modares University, Tehran, Iran (2016-2021)

- Thesis title: "Integration of lipid production from microalgae with emphasis on non-destructive extraction system"

M.Sc. in Chemical Engineering-Biotechnology at Sharif University of Technology, Tehran (2010-2012)

- Thesis title: "Experimental study of biological removal of cyanides in the effluent of coke oven of Esfhan Steel Company"

B.Sc. in Chemical Engineering-Food Industry at Sahand University of Technology, Tabriz (2005-2009)

- Thesis Title: "Plant Designing of cold section in Olefin plant using Hysys and Aspen Plus"

Research Experience

- Collaboration for the research activity on microalgae cultivation through the pilot plant located in the laboratories of the company STAM S.r.l , Genoa, Italy (January 2023 – April 2023)

- Collaboration for the research activity on using recycled water from manatee tank for microalgae cultivation through the pilot plant (bubble column photobioreactors) located in aquarium of Genoa, Italy (October 2022- December 2022)
- Treatment of digestate form anaerobic digestion and biogas upgrade using microalgae, A team project, Genoa University, Genoa, Italy (February 2022-September 2022)
- Scientific Reviewer of Reviewercredits (June 2022- to date)
- Winery wastewater treatment by microalgae, A team project, Genoa University, Genoa, Italy (2019-2020).
- Visiting researcher at Genoa University, Genoa, Italy (October 2019- July 2020)
- Experimental determination of pre-treatment on hydrolysis of algal biomass in order to extraction of carbohydrates and proteins, A team project, Tarbiat Modares University, Tehran, Iran (2018).
- Investigating the potential of microalgae as a sustainable alternative for concentrated municipal wastewater treatment and alcohol distillery wastewater, A team project, Tarbiat Modares University, Tehran, Iran (2018).
- Isolation and purification Indigenous Microorganisms, Biochemical and Bioenvironmental Eng. Research Center (BBRC), Sharif University of Technology, Tehran, Iran (2013)

Teaching Experience

- Teaching Fluid Mechanics, Heat Transfer, Matlab Software in Payame Noor University, Ardebil (Jan 2012-Jul2014)
- Teacher Assistant in Environmental Biotechnology course in Tarbiat Modares University

Thesis Supervision as Co-Advisor

- Lucrezia Costa, "Use of wastewater from the water recovery plant of the manatee tank at the Aquarium of Genoa for cultivation of Chlorella Vulgaris and biogas production", 2022, Bachelor's Degree in Chemical and Processes Engineering, Department of Civil, Chemical and Environmental, University of Genoa.
- Riccardo Venturino, "Use of microalgal co-colture for the continuous treatment of winery wastewater", 2022, Bachelor's Degree in Chemical and Processes Engineering, Department of Civil, Chemical and Environmental, University of Genoa.

work Experience

- Working as a consulting engineer in the field of water technologies in Watech Accelerator Company (part-time) (2021).
- Working as a consulting engineer in the field of air conditioners in Paydar Tahvie Persian Company (2013-2015).

- Apprentice in the dairy factory (Moghan Agro Industrial and Animal Husbandry) (Summer 2009)

Journal Papers

- Sh. Mirizadeh, S. A. Arni, M. Elwaheidi, A. A. M. Salih, A. Converti, A. A. Casazza " Adsorption of tetracycline and ciprofloxacin from aqueous solution on raw date palm waste ", accepted in Chemical Engineering & Technology (2023).
- E. Spennati, Sh. Mirizadeh, A. A. Casazza, C. Solisio, A. Converti, " *Chlorella vulgaris* and *Arthrospira platensis* growth in a continuous membrane photobioreactor using industrial winery wastewater ", Algal Research (2021). https://doi.org/10.1016/j.algal.2021.102519
- Sh. Mirizadeh, A. A. Casazza, A. Converti, M. Nosrati, S. A. Shojaosadati, "Repetitive non-destructive extraction of lipids from Chlorella vulgaris grown under stress conditions", Bioresource Technology 326 (2021). https://doi.org/10.1016/j.biortech.2021.124798
- Sh. Mirizadeh, M. Nosrati, S. A. Shojaosadati, " Synergistic effect of nutrient and salt stress on lipid productivity of chlorella vulgaris through two-stage cultivation", BioEnergy Research 13, 507-517 (2020). https://doi.org/10.1007/s12155-019-10077-8
- Sh. Mirizadeh, S. Yaghmaei, Z. G. Nezhad, "Biodegradation of cyanide by a new isolated strain under alkaline conditions and optimization by response surface methodology (RSM)", Journal of Environmental Health Science and Engineering 12, 85 (2014). https://doi.org/10.1186/2052-336X-12-85

Conference Proceedings

- Sh. Mirizadeh, S. Yaghmaei, Z. G. Nezhad, "Isolation and purification of cyanide biodegradation microorganisms from coke oven effluent of Esfahan steel company", accepted for oral presentation in the 14th Iranian National Congress of Chemical Engineering, October 2012, Sharif University of Technology, Iran. https://en.civilica.com/doc/172123/
- Sh. Mirizadeh, A. Chakoshian, M. Nosrati, S. A. Shojaosadati, " semi-continuous cultivation of Chlorella vulgaris for treating artificial wastewater" accepted for presentation in the 16th Iranian National Congress of Chemical Engineering, January 2019, Amirkabir University of Technology, Iran. https://en.civilica.com/doc/859725/
- Sh. Mirizadeh, A. Chakoshian, M. Nosrati, S. A. Shojaosadati, "Two stage cultivation of Chlorella vulgaris for high lipid production", accepted for presentation in the 16th Iranian National Congress of Chemical Engineering, January 2019, Amirkabir University of Technology, Iran. https://en.civilica.com/doc/859726/
- Sh. Mirizadeh, A. Chakoshian, M. Nosrati, S. A. Shojaosadati, "Optimization of stress conditions to increase lipid production in chlorella vulgaris", accepted for oral presentation in the 2th Iranian National Conference on Phycology, January 2019, Tarbiat Modares University,Tehran, Iran. https://profdoc.um.ac.ir/paper-abstract-1081966.html
- AA. Casazza, E. Spennati, Sh. Mirizadeh, A. Converti, "Continuous treatment of wastewater from the wine industry using microalgae", accepted for oral presentation in the 2th National Congress

of the Italian Association of Atmospheric Sciences and Meteorology, September 2020, Padova, Italy

- Sh. Mirizadeh, AA. Casazza, A. Converti, . Comparison of kinetic models for Chlorella vulgaris growth in mixotrophic culture", Presented as poster at the Conference GRICU 2022 - "Centralità dell'Ingegneria Chimica in un mondo che cambia", Ischia, Italy, 3-6 July 2022.

Extracurricula Activities

- Member of the Executive Group in the first Environmental Remediation Technologies Conference, by Sharif University of Technology (2011)
- Vice-Chair in student scientific committee at the 20th National Food Science and Industries Congress on Food Technology, by Sharif University of Technology (2011)
- Member of the Executive Group in the 3rd Iranian Conference on Systems Biology, by Tarbiat Modares University (2018)
- Member of the Executive Group in Biotechnology Research and Development Center, Tarbiat Modares University (2017-2018)

Award

- Supporting grant by Esfahan steel company for M.Sc. thesis
- Supporting grant by Iran National Science Foundation for visiting research

Languages

- Persian and Azari (Native)
- English (B2)
- Italian (A2)
- Turkish (B1)

Lab and Softwar Skills

- UV-Vis spectrophotometer, HPLC, ultrasonication, Fungi cell culture, bacterial cell culture, microalgae cell culture, gas chromatography
- Computer skilled including MATLAB, HYSYS, Microsoft Office, Design expert

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Genoa, 19/06/2023