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EDUCATION:

- Ph.D. in Environment- Environmental pollution, Tarbiat Modares University, Tehran (2013-2018)
- M.Sc. in Marine Biology- Marine Pollution, Khorramshahr University of Marine Science and Technology (2007-2010)
- B.Sc. in Natural Recourse Engineering- Environment, Khorramshahr University of Marine Science and Technology (2003-2007)

RESEARCH INTEREST:

- Wastewater Treatment Systems
- COD and Nutrient Removal
- LCA and LCC Analysis
- Wastewater Treatment and Modeling
- Biological removal of Environmental pollution

PUBLICATION:

Hajar Abyar, Somayeh Namroodi, Zahra Gharekhani, Ferdos Hajimoradloo. (2024). Life cycle and efficiency assessment of fixed-bed bioreactor using recycled shredded plastics compared with conventional activated sludge bioreactor for dairy wastewater treatment. *Journal of Water Process Engineering*, 64, 105676.-

Saeedeh Rastgar, Hassan Rezaei, Habibollah Younesi, **Hajar Abyar**. (2024). Preparation of superparamagnetic AC/Fe₃O₄/TiO₂ nanoparticles from magnetic waste oily petroleum sludge (MWOPS): comprehensive characterization, H₂ production, design batch photoreactor, and treatment of oily petroleum wastewater (OPW) under UVA light. *Carbon Letters*, 34 (6): 1673-1691.

Zohreh Jahannia, Hassan Rezaei, **Hajar Abyar**, Somayeh Namroodi. (2024). Synthesis and optimization of biochar prepared from cow dung for methylene blue removal. *Journal of Applied Research in Water and Wastewater*. <https://doi.org/10.22126/arww.2024.10163.1320>.

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Rastgar, S., Rezaei, H., Younesi, H. **Abyar, H.** (2024). Preparation of superparamagnetic AC/Fe₃O₄/TiO₂ nanoparticles from magnetic waste oily petroleum sludge (MWOPS): comprehensive characterization, H₂ production, design batch photoreactor, and treatment of oily petroleum wastewater (OPW) under UVA light. *Carbon Letters*. <https://doi.org/10.1007/s42823-024-00711-7>.

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Samaneh Salmani, Hassan Rezaei, **Hajar Abyar**. (2023). Adsorption potential of biochar derived from cotton waste for efficient removal of methylene blue from aqueous solutions. *Journal of Applied Research in Water and Wastewater*, 10 (2), 188-196. <https://doi.org/10.22126/arww.2024.10144.1319>

Mohadeseh Elhami, Nader Bahramifar, Hamid Reza Bijanzadeh, **Hajar Abyar**. (2023). Process efficiency and life cycle assessment of novel waste-derived Chl/TiO₂ photocatalyst for rhodamine B removal. *Journal of Water Process Engineering*, 56, 104425. <https://doi.org/10.1016/j.jwpe.2023.104425>.

Hajar Abyar, Mohsen Nowrouzi. (2023). A Comprehensive Framework For Eco-environmental Impact Evaluation Of Wastewater Treatment Plants: Integrating Carbon Footprint, Energy Footprint, Toxicity, and Economic Assessments. *Journal of Environmental Management*, 348, 119255. <https://doi.org/10.1016/j.jenvman.2023.119255>.

Hamed Shahraki, Fatemeh Einollahipeer, **Hajar Abyar**, Malihe Erfani. (2023). Assessing the environmental impacts of copper cathode production based on life cycle assessment. *Integrated Environmental Assessment and Management*. <https://doi.org/10.1002/ieam.4857>.

Eshagh Khaki, Hamid Boleydei, **Hajar Abyar**, Mohsen Nowrouzi. (2023). Integrating eco-environmental assessment with energy recovery for petrochemical wastewater treatment technologies: A transition towards green and sustainable management. *Journal of Water Process Engineering*, 55, 104103. <https://doi.org/10.1016/j.jwpe.2023.104103>.

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Narges Mehboudi, Mohsen Nowrouzi, **Hajar Abyar**, (2022). Life cycle assessment of graphite carbon nitride synthesis with application approach in industries located in the Persian Gulf basin. *Journal of Natural Environment*, 74: 855-868. <https://doi.org/10.22059/JNE.2022.326730.2245>.

Fatemeh Najartabar Bisheh, Malihe Amini, **Hajar Abyar**, Nicole K. Attenboroughd, Irene Ling, Babak Salamatinia, Habibollah Younesi, Ali Akbar Zinatizadeh, (2021). Response surface methodology approach for simultaneous carbon, nitrogen, and phosphorus removal from

industrial wastewater in a sequencing batch reactor. *Advances in Environmental Technology* 2: 119-136.

Eshagh Khaki, **Hajar Abyar**, Mohsen Nowrouzi, Habibollah Younesi, Mahdi Abdollahi, Mahsa Gholami Enderati, (2021). Comparative life cycle assessment of polymeric membranes: Polyacrylonitrile, polyvinylimidazole and poly (acrylonitrile-co-vinylimidazole) applied for CO₂ sequestration, *Environmental Technology & Innovation*, 22: 101507.

Mohsen Nowrouzi, **Hajar Abyar**, (2021). A framework for the design and optimization of integrated fixed-film activated sludge-membrane bioreactor configuration by focusing on cost-coupled life cycle assessment, *Journal of Cleaner Production*, 296: 126557.

Mohsen Nowrouzi, **Hajar Abyar**, Habibollah Younesi, Eshagh Khaki, (2021). Life cycle environmental and economic assessment of highly efficient carbon-based CO₂ adsorbents: A comparative study. *Journal of CO₂ Utilization*, 47: 101491.

Mohsen Nowrouzi, **Hajar Abyar**, Amir Rostami, (2021). Cost coupled removal efficiency analyses of activated sludge technologies to achieve the cost-effective wastewater treatment system in the meat processing units. *Journal of Environmental Management*, 283: 111991.

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anoxic, oxic bioreactor for meat wastewater treatment. *Water and Environment Journal*, 32(4): 637-649.

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Fatemeh Shahaliyan, Alireza Safahieh, **Hajar Abyar** (2015). Evaluation of emulsification index in marine bacteria *Pseudomonas* sp. and *Bacillus* sp. *Arabian Journal for Science and Engineering*, 40 (7): 1849-1854.

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Abyar H, Mojodi F, Safahieh A, Zolgharnein H, Zamani I. (2011). The role of *Pseudomonas putida* in bioremediation of naphthalene and copper. *World journal of fish and marine science*, 3(5), 444-449.

Publications in Persian Language

Mehboudi N, Nowrouzi M, **Abyar H**, (2022). Life cycle assessment of graphite carbon nitride synthesis with application approach in industries located in the Persian Gulf basin, *Journal of Natural Environment*, 74(4): 855-868.

Abyar H, Roostan Z. (2021). Biosorption of copper by *Ochrobactrum* sp. isolated from Khor Mousa sediments in Persian Gulf. *Animal environmental Journal*, In press.

Shahaliyan F, **Abyar H**, Lamoochi R, Safahieh A, Salamat N, Mojodi F, Zaredoost M. (2020). Assessment of Isolated Bacteria from Persian Gulf Sediments for Biological Removal of Lead and Anthracene. *Journal of biosafety*, 13(2): 31-50.

Esmaili Sari A. co-authors: **Abyar H**, Ghaffari S, Shabani M. (2018). Water quality standard in aquatic ecosystem. Academic Jihad, Publishing Organization, Tehran, Iran, p 330.

Shahaliyan F, Lamoochi R, Safahieh A, Salamat N, Mojodi F, **Abyar H**, Zaredoost M. (2016). Study the ability of bacteria isolated from Persian Gulf sediments to biologically remove lead and anthracene. *Journal of Natural Environment*, 69(3), 743-756.

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Safahieh A, Lamoochi R, Salamat N, **Abyar H**. (2014). Isolation and identification of *Bacillus firmus* from marine sediments of Imam Khomeini port and study of its ability in biosorption of lead. *Journal of Oceanography*, 5(17), 11-19.

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Shahaliyan F, Safahieh A, **Abyar H**. (2013). Isolation and identification of bacterial species resistant to nickel from polluted sediments of Khor Musa and study the function of bacterium in biosorption of Nickle. *Journal of Environmental Studies*, 39(2), 93-100.

Abyar H, Safahieh A, Zolgharnein H, Zamani I. (2012). Study the biosorption of cadmium ion by *Achromobacter piechaudii* isolated from Persian Gulf sediments. *Journal of Oceanography*, 3(10), 19-25.

Abyar H. (2021). Life cycle assessment of wastewater treatment systems: challenges and approaches. 1th National Conference of Environment. Gorgan University of Agricultural Sciences and Natural Resources. Gorgan, Iran.

Alonso J.L, **Abyar H**, Luján M.J, Bes A, Mendoza J.A, Doñate S, Younesi H, Bahramifar N, Zinatizadeh A.A. Evaluating the effect of ammonium sulphate as draw solution on ammonia-oxidizing bacterial communities in a forward osmosis bioreactor. BioMicroWorld2017 Conference. Madrid. Spain.

Abyar H, Safahieh A, Zolgharnein H. (2010). Identification and study the growth of *Pseudomonas* sp. in presence of copper. 1th National Conference of Energy and Environment. University of Kerman, Kerman, Iran.

Abyar H, Safahieh A. (2008). The use of microorganisms in treatment of marine ecosystem from heavy metals. 2th Conference of Marine Environment, Industry and Sustainable Development. Iran.

ACADEMIC TEACHING EXPERIENCE:

M.Sc. course

Water and Soil Pollution, Waste Recycling, Marine Pollution, Industrial Pollution, Wastewater Treatment, Environmental Biogeochemical, *Gorgan University of Agricultural Sciences and Natural Resources*

B.Sc. course

Water and Soil Pollution, Waste Management, Health, Safety and Environment, *Gorgan University of Agricultural Sciences and Natural Resources*

Water and Soil Pollution, Ecology, General zoology, Biochemistry laboratory, *Payam Noor University of Khorramshahr*

SERVICE AND PROFESSIONAL MEMBERSHIP:

- Member of the scientific committee of the 1th National Conference of Environment. Gorgan University of Agricultural Sciences and Natural Resources. Gorgan, Iran.

LANGUAGES: Persian, English

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Sciences & Natural Resources