

Amin Ghaderikia

Current Location: Middle East Technical University, Cankaya Ankara/TURKEY

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Research Interests

Wastewater Engineering, Bioelectrochemical Processes, Biofuel Production, Nutrient Removal and Recovery, Optimization.

Education

Middle East Technical University

M.Sc. Environmental Engineering (December 2022)

• *Thesis:* "Start-Up Strategies for Enhanced Methane Production from Cattle Manure In Bioelectrochemical Systems"

Supervisor: Assist. Prof. Dr. Yasemin Dilsad Yilmazel

Semnan University

M.Sc. Chemical Engineering- Health, Safety and Environment (February 2017)

• *Thesis:* "Optimization of F.G.S Detectors' Layout at Process Facilities"

Supervisor: Assoc. Prof. Dr. Mehdi Parvini

Abadan Institute of Technology

B.S. in Safety and Technical Protection Engineering (September 2013)

• *Thesis:* "On the Carbon-Dioxide Absorption and Storage Methods at the Abadan Iran Refinery"

Experiences

Research assistant at the Department of Environmental Engineering, Middle East Technical University, Ankara, TURKEY (September 2019 - Present)

- Worked as a Researcher within the Bioprocess Engineering Research Group (BIOERG) at METU on various anaerobic biotechnology topics (<http://yasemindilsad.com/index.html>)
- Growth and maintenance of pure and mixed culture anaerobe microorganisms that required different cultivation procedures
- Design and operation of a batch-fed integrated biomethane production system with anaerobic digestion (AD) and Microbial Electrolysis Cells (MEC)
- Maintenance of instrumental devices such as GC, data acquisition unit, and potentiostat/galvanostat
- Writing the progress and final reports of the national and international projects funding the research

HSE Consultant at Semnan Sodium Ash Cooperation, Semnan, Iran. (September 2015- June 2016)

Intern at Gachsaran Oil and Gas Production Company, Gachsaran, Iran (September 2010)

Intern at East Azerbaijan National Iranian Gas Company, Tabriz, Iran. (September 2009)

Scholarship and Funded Projects

Student Scholarship, Abadan Institute of Technology (2008.09-2013.09)

Methane Production from Cow Manure in Electromethanogenic Reactors (2021.02 - 2022.04)

Funding: Middle East Technical University (Ankara) Office of Sponsored Research Program (Grant no: 10776)

Nutrient recovery and high-value fertilizer production from biogas plant wastes (2021.09 - 2022.01)

Funding: Royal Academy of Engineering Newton Fund Transforming Systems Through Partnerships Program (Grant no: TSP1283)

Publications

Ghaderikia, A., Taskin, B., & Dilsad, Y. (2023). Start-up strategies of electromethanogenic reactors for methane production from cattle manure. *Waste Management*, 159(January), 27–38. <https://doi.org/10.1016/j.wasman.2023.01.027>.

Ghaderikia A. and Yilmazel Y.D., The Impact of Conductive Material Amendment on the Performance of Anaerobic Digestion-Microbial Electrolysis Cell (AD-MEC) Systems. Manuscript in preparation.

Oral Presentations

Ghaderikia A. and Yilmazel Y.D., " Effect of acclimation with different substrates on electrotrophic biofilm formation and performance of electromethanogenic cell ", Abstract accepted for publication, 5th AP-ISMET, 16-18 July 2021. [Online].

Ghaderikia A. and Yilmazel Y.D., " The impact of cathode acclimation methods on electrotrophic biofilm formation and performance of electromethanogenic cells ", Abstract accepted for publication, 5th EU-ISMET, 13-15 September 2021. [Online].

Ghaderikia A. and Yilmazel Y.D., " The Impact of Conductive Material Amendment on the Performance of Anaerobic Digestion-Microbial Electrolysis Cell (AD-MEC) Systems ", Abstract accepted for publication, 9th International Conference on Sustainable Solid Waste Management Corfu, Greece, 15 - 18 JUNE 2022.

Laboratory Skills

Anaerobic Cultivation
GAS Chromatography
DNA sample collection, extraction, and analysis
Electrochemical Analysis (LSV,CV, EIS)

Computer Skills

Languages: MATLAB
Modeling: DNV PHAST, ALOHA, Aermod
Operating Systems: Windows

Languages

Azeri, Native
Persian, Native
Turkish, Fluent
English, Fluent

Certificates

Anaerobic Treatment of High-Strength Industrial Wastes at Marquette University (Online), (2020)