Shahab Davoudi Kashani

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Education

University of Tehran
Tehran, Iran
2020 – 2023

M.Sc, Environmental Engineering, School of Chemical Engineering
GPA: 3.3/4
Thesis: "Hydrogen production from cigarette filter using catalytic supercritical water gasification."

University of Tehran
Tehran, Iran
2015 - 2019

B.Sc, Chemical Engineering, School of Chemical Engineering

Thesis: "Investigating the construction and performance of photovoltaic cells."
Thesis grade: 20/20

Publication

1. Simulation of hydrogen production from Distillery Wastewater in supercritical water process and optimization by machine learning. (in preparation)
2. Hydrogen production from cigarette filters using catalytic supercritical water gasification technology(in preparation)
3. Refinery Waste to Bio-Oil: Catalytic Hydrothermal Liquefaction of Oily Sludge(submitted to the journal)
4. Mechanistic Investigation of Biofuel Production from Algal Biomass and Organic Waste via Nano-Catalytic Pyrolysis Process (in preparation)

Research interests

Hydrothemal conversion	Catalyst
Pyrolysis	Machine learning
Waste conversion	Simulation

Languages

Lori: Native or Bilingual Proficiency.

Persian: Native or Bilingual Proficiency.

English: The TOEFL test will be taken soon.

Skills

Laboratory skills: highly skilled in working with reactors, and fault detection. catalyst synthesis.

Analysis equipment: gas chromatography, GC-MS, HPLC, TGA, Mass Spectrometry.

Software: Python, MATLAB, Aspen Hysys, Aspen Plus, Minitab, Design Expert.

Typesetting: Microsoft Office.

Teaching experience

Teaching Assistant, University of Tehran, Tehran, Iran Fall 2023

- Course Title: Sustainable Energy Course Instructor: Dr. Tavakoli
  - Prepared weekly booklets and assignments, and solved students' problems

Teaching Assistant, University of Tehran, Tehran, Iran Fall 2023

- Course Title: Physical Chemistry Course Instructor: Dr. Tavakoli
  - Prepared weekly booklets and assignments, and solved students' problems

Research experience

– **Researcher in waste conversion through Thermochemical cycles. (Master Thesis)**

Green Technology Laboratory (GTL), under the supervision of Dr. Tavakoli 12/2021 - Present

– **Prediction of the product, including gas yield and Hydrochar, based on machine learning method (Supercritical water gasification).**

The academic project, including literature review, under the supervision of Dr. Tavakoli.12/2021 – 6/2022

– **Global Reporting Initiative (GRI) 303(Water and Effluent) Analysis for five companies.**

The academic project, under the supervision of Dr. Tavakoli. 10/2021 – 2/2022

– **Thin-film nanocomposite membrane for heavy metals removal.**

Literature review, under the supervision of Dr. Mehrnia. 4/2021 - 11/2021

– **Investigating the air pollution caused by transportation.**

Literature review, under the supervision of Dr. Sarafzadeh. 10/2020 - 2/2021

– **Investigating the construction and performance of photovoltaic cells.**

Bachelor's thesis, under the supervision of Dr. Fazeli. 6/2019 - 9/2019

– **Design a PFD of ammonia production by Aspen Hysys and an economic estimation for creating an industrial plant by Camfar III.**

Under the supervision of Dr. Fazeli 9/2018 - 1/2019

Work experience

– **Freelancer** 06/2020 - Present

Parscoders.com

Solving equations with MATLAB – Simulate PFD with Aspen Hysys and Aspen Plus.

– **Practical Training** 06/2018 - 09/2018

ZamZam company
Some tasks were: water hardness control, PH control, and microbial control of beverages.

Honors and awards

- Ranked in the top 0.2% of more than 8000 applicants in the university entrance exam for a Master's degree in Chemical Engineering.
- Received a National Graduate Full Scholarship for my graduate studies.
- Ranked in the top 4% of more than 182000 participants in the nationwide entrance examination.
- Awarded a Governmental Tuition-Waiver Scholarship for my undergraduate studies.

Selected courses

Sustainable Energy(**M.Sc**)	17.5/20 (4/4)
Advanced Mass Transfer(**M.Sc**)	18.25/20 (4/4)
Advanced Thermodynamics(**M.Sc**)	17.63/20 (4/4)

Professional training

Courses

- Machine Learning, Online Course, Courseera.com.
- Photocatalyst, Online Course, University of Tehran.

References

Dr. Omid Tavakoli
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University of Tehran
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GoogleScholar

Dr. Ahmad Hallajisani
Assistant Professor
Department of Chemical Engineering
University of Tehran
Email: hallaj@ut.ac.ir
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Dr. Ali Fazeli
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