

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 hydrothermal gasification.”

University of Tehran
Tehran, Iran
2015 - 2019

B.Sc, Chemical Engineering, School of Chemical Engineering
GPA: 14.19/20
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

Hydrothermal conversion

Catalyst

Waste conversion

Machine learning

Wastewater treatment

Simulation

Languages

Persian: Native or Bilingual Proficiency.

English: The TOEFL test will be taken soon.

Skills

Laboratory skills: Skilled in working with general laboratory equipment including Centrifuges, Autoclaves, pH Meters, Ovens, and Furnaces, as well as highly experienced in reactor operation, fault detection, and catalyst synthesis.

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

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

Teaching experience

Teaching Assistant, University of Tehran, Tehran, Iran

Fall 2023

- Course Title: Sustainable Energy

Course Instructor: Dr. Tavakoli

Teaching Assistant, University of Tehran, Tehran, Iran

Fall 2023

- Course Title: Physical Chemistry

Course Instructor: Dr. Tavakoli

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

- **Parscoders.com Freelancer**

06/2020 - Present

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

- **ZamZam company Practical Training**

06/2018 - 09/2018

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

- Machine Learning - Online Course, Coursera.com.
- Municipal Solid Waste Management in Developing Countries - Online Course, Coursera.com.
- Circular Economy - Sustainable Materials Management - Online Course, Coursera.com.
- Nanotechnology and Nanosensors, Part1- Online Course, Coursera.com.
- Sustainability of Social-Ecological Systems: the Nexus between Water, Energy and Food - Online Course, Coursera.com.
- Photocatalyst - Online Course, University of Tehran.
- Principles and Application of TGA, GC-MS, GC, HPLC, SEM, UAV-Mass Spectrometry - Online Course, University of Tehran.

References

Dr. Omid Tavakoli
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Dr. Ali Fazeli
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Department of Chemical Engineering
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