Sahar Souizi

Email: s.souizi1@umbc.edu

Education

PhD Environmental Engineering – Research assistant
Since 2022

University of Maryland, Baltimore County (UMBC)
Research on Development of Donnan dialysis reactors configuration for sustainable nutrient recovery from agricultural waste
To-date GPA: 4.0/4.0

MSc. Chemical Engineering-Biotechnology Processes
Sep. 2011 - Jan. 2014

Sahand University of Technology, Tabriz, Iran
Thesis Title: Optimization of operational conditions of biopolymers (PHB) production by mixed bacterial culture.
GPA: 3.8/4.0

BSc. Chemical Engineering-Petrochemical Processes
Sep. 2005 - Feb. 2010

Sahand University of Technology, Tabriz, Iran
Course work included: Transport phenomena, Engineering software, Reactor Design and Process control.
Senior Project: Simulation & Optimization of C3 splitter & Debutanizer Towers of Olefin Section of "Tabriz Petrochemical Company" by HYSYS and ASPEN Software.
GPA: 3.3/4.0

Work experience

Technical expert in air-conditioner systems
2016 - 2018

Atsys Engineering Consultancy Co. Tehran, Iran

- Manage responsibilities such as researching, observing installation, and advising solutions, by using prioritization and multitasking skills.
- Contact with various industrial plants to advise and equip them.
- Collaborate effectively with a group of other experts.
- Communicate effectively with colleagues.

Chemical engineer- project designer
2014 - 2015

Pakab Persian Co. Tehran, Iran

- Design the Piping and Instrumentation diagrams (P & IDs) using AutoCAD.
- Fluent with process flow diagrams (PFDs) in water treatment processes.
- Qualified to identify the best characteristics of filters and reach the best choice for the treatment of water.

Publications and Conferences

- Hui Chen, **Sahar Souizi**, Kaylyn Stewart, Lee Blaney, "Application of the $R_{d/w}$ framework to assess Donnan dialysis performance." Journal of hazardous material, 2023 https://doi.org/10.1016/j.coche.2023.100967
- Hui Chen, Michael Rose, Michael Fleming, **Sahar Souizi**, Utsav Shashvatt, Lee Blaney, "Recent Advances in Donnan Dialysis Technologies for Water/wastewater Treatment and Resource Recovery: A Critical Review." *Chemical Engineering Journal, 2022* https://doi.org/10.1016/j.cej.2022.140522
- Hui Chen, **Sahar Souizi**, Kaylyn Stewart, Fabian Amurrio, Lee Blaney, "Development of novel tube-in-tube Donnan dialysis reactors for sustainable and efficient nutrient recovery", Poster presentation at Association of Environmental Engineering and Science Professors (AEESP) Meeting, Boston, Massachusetts, Jun. 2023.
- **Sahar Souizi,** Hui Chen, Kaylyn Stewart, Lee Blaney, **"**Sustainable nutrient recovery with novel tube-in-tube Donnan dialysis reactors." Oral presentation at American Chemical Society Fall Meeting – San Francisco, California – Aug. 2023.
- **S. Souizi**, Sh. Jamali, A. Sheikhbaglou, S. Bakhtiari, S. Ebrahimi, "Long-term Effect on Enrichment of a Mixed Bacterial Culture with a High PHA Storage Capacity" The 8th International Chemical Engineering Congress & Exhibition (IChEC 2014)
- **S. Souizi**, Sh. Jamali, A. Sheikhbaglou, S. Bakhtiari, S. Ebrahimi, "Wastewater treatment with the respect of Biopolymers production" The16th National Conference on Environmental Health, Iran
- **S. Souizi**, Sh. Jamali, S. Bakhtiari, S. Ebrahimi, "Enrichment of biopolymer accumulating bacteria using activated sludge as an inoculum", The 1st National Conference of water reuse, Iran-Tehran.
- R. Arjmand, **S.Souizi**, M. Hosseini, S.Ebrahimi, "Modeling of biopolymer production process", The 1st National Conference of water reuse, Iran-Tehran.
- S. Bakhtiari, A. Sheikhbaglou, **S. Souizi**, S. Ebrahimi, "Effect of nitrogen source elimination on coulombic efficiency of Microbial Fuel Cell" The 8th International Chemical Engineering Congress & Exhibition (IChEC 2014)

Rewards

- University of Maryland Baltimore County, runner-up in Graduate research symposium highlights, April 2024
- American Chemical Society (ACS Fall 2023 meeting) Certificate of Merit for Outstanding Material Content and Manner of presentation, August 2023
- Sahand University of Technology, Chemical Engineering-Biotechnology Department, Second rank Graduate Student, 2014
- Iranian Association of Chemical Engineering for Top Graduate Reward, Iran, 2015

Key skills

- **Computer skills**
  - Visual MINTEQ
  - COMSOL Multiphysics
  - Simulation and Optimization of Industrial Processes by HYSYS & ASPEN
  - Simulation and Modeling of Biological Processes by AQUASIM
  - Bioreactor Design by SOLIDWORK
  - MATLAB
  - Microsoft Office

- **Language skills**
  - English
  - German

Other information

- Chemistry private Tutor, 2010-2011
- Member of translation team, Institute of Standards, and Industrial Research of Iran (ISIRI), work in IEI Co. 2010- 2011
- Member of Scientific Association of Chemical Engineering Department, Sahand University of Technology, 2007-2008
- Former Basketball player of Tehran Students' Team
- Enjoy Yoga, Pilates, cycling, climbing, basketball, & baking cakes.