

# CURRICULUM VITAE

## Mostafa Dadashi Firouzjaei

University of Alabama  
326 Reed Street, Apt 25

Tuscaloosa, Alabama, USA

mdfirouzjaei@gmail.com  
<http://www.mostafa-firouzjaei.com/>  
(205) 886-0806

### Research Interests

Water and Wastewater Treatment, Environmental Microbiology, Membrane filtration, Adsorption, Molecular dynamics, Nanomaterial Design.

### Professional Experience

- Founder, and CEO of "Magazine of Academic and Technical Crimson Horizons Engineering" (2019–), University of Alabama, Tuscaloosa, AL
- Executive Manager (2015–2017), AR Membrane Research Lab, Babol, IRAN
- Editorial Board (2011-2015), Khanevadeh Sabz Magazine, Tehran, IRAN

### Education

- Ph.D., Civil and Environmental Engineering, University of Alabama, Tuscaloosa, AL, (August 2018-Present)
- M.S., Environmental Engineering, University of Alabama, Tuscaloosa, AL, (2018-2020)
- M.S., Material Science and Engineering, Sharif University of Technology, Tehran, IRAN (2015-2017)
- B.S., Material Science and Engineering, Iran University of Science and Technology, Tehran, IRAN (2011-2015)

### Refereed Journal Articles

#### *First Authored Articles:*

1. **Mostafa Dadashi Firouzjaei**, Ahmad Arabi Shamsabadi, Mohammad Sharifian Gh, Ahmad Rahimpour, and Masoud Soroush. "A novel nanocomposite with superior antibacterial activity: a silver-based metal organic framework embellished with graphene oxide." *Advanced Materials Interfaces* 5, no. 11 (2018): 1701365.
2. **Mostafa Dadashi Firouzjaei**, Ahmad Arabi Shamsabadi, Sadegh Aghapour Aktij, S. Fatemeh Seyedpour, Mohammad Sharifian Gh, Ahmad Rahimpour, Milad Rabbani Esfahani, Mathias Ulbricht, and Masoud Soroush. "Exploiting synergetic effects of graphene oxide and a silver-based metal-organic framework to enhance antifouling and anti-biofouling properties of thin-film nanocomposite membranes." *ACS applied materials & interfaces* 10, no. 49 (2018): 42967-42978.
3. **Mostafa Dadashi Firouzjaei**, S. Fatemeh Seyedpour, Sadegh Aghapour Aktij, Mattia Giagnorio, Nasim Bazrafshan, Arash Mollahosseini, Farhikhteh Samadi et al. "Recent advances in functionalized polymer membranes for biofouling control and mitigation in forward osmosis." *Journal of Membrane Science* 596 (2020): 117604.
4. **Mostafa Dadashi Firouzjaei**, Farhad Akbari Afkhami, Milad Rabbani Esfahani, C. Heath Turner, and Siamak Nejati. "Experimental and molecular dynamics study on dye removal from water by a graphene oxide-copper-metal organic framework nanocomposite." *Journal of Water Process Engineering* 34 (2020): 101180.
5. Pejman, Mehdi, **Mostafa Dadashi Firouzjaei**, Sadegh Aghapour Aktij, Parnab Das, Ehsan Zolghadr, Hesam Jafarian, Ahmad Arabi Shamsabadi et al. "Improved antifouling and antibacterial properties of forward osmosis membranes through surface modification with zwitterions and silver-based metal organic frameworks." *Journal of Membrane Science* (2020): 118352. (Same contribution as first author)
6. Seyedpour, S. Fatemeh, **Mostafa Dadashi Firouzjaei**, Ahmad Rahimpour, Ehsan Zolghadr, Ahmad Arabi Shamsabadi, Parnab Das, Farhad Akbari Afkhami, Mohtada Sadrzadeh, Alberto Tiraferri, and Mark Elliott. "Toward Sustainable Tackling of Biofouling Implications and Improved Performance of TFC FO Membranes Modified by Ag-MOF Nanorods." *ACS Applied Materials & Interfaces* 12, no. 34 (2020): 38285-38298. (Same contribution as first author)

7. Pejman, Mehdi, **Mostafa Dadashi Firouzjaei**, Sadegh Aghapour Aktij, Parnab Das, Ehsan Zolghadr, Hesam Jafarian, Ahmad Arabi Shamsabadi et al. "In Situ Ag-MOF Growth on Pre-Grafted Zwitterions Imparts Outstanding Antifouling Properties to Forward Osmosis Membranes." *ACS Applied Materials & Interfaces* 12, no. 32 (2020): 36287-36300. ([Same contribution as first author](#))
8. Esfahani, Milad Rabbani, Sadegh Aghapour Aktij, Zoheir Dabaghian, **Mostafa Dadashi Firouzjaei**, Ahmad Rahimpour, Joyner Eke, Isabel C. Escobar et al. "Nanocomposite membranes for water separation and purification: Fabrication, modification, and applications." *Separation and Purification Technology* 213 (2019): 465-499. ([Same contribution as first author](#))
9. Seyedpour, S. Fatemeh, Ahmad Arabi Shamsabadi, Saeed Khoshhal Salestan, **Mostafa Dadashi Firouzjaei**, Mohammad Sharifian Gh, Ahmad Rahimpour, Farhad Akbari Afkhami et al. "Tailoring the Biocidal Activity of Novel Silver-Based Metal Azolate Frameworks." *ACS Sustainable Chemistry & Engineering* (2020). ([Same contribution as first author](#))

#### **Other Co-authored Articles:**

10. Zirehpour, Alireza, Ahmad Rahimpour, Saeed Khoshhal, **Mostafa Dadashi Firouzjaei**, and Ali Asghar Ghoreyshi. "The impact of MOF feasibility to improve the desalination performance and antifouling properties of FO membranes." *RSC advances* 6, no. 74 (2016): 70174-70185.
11. Rahimpour, Ahmad, S. Fatemeh Seyedpour, Sadegh Aghapour Aktij, **Mostafa Dadashi Firouzjaei**, Alireza Zirehpour, Ahmad Arabi Shamsabadi, Saeed Khoshhal Salestan, Mostafa Jabbari, and Masoud Soroush. "Simultaneous improvement of antimicrobial, antifouling, and transport properties of forward osmosis membranes with immobilized highly-compatible polyrhodanine nanoparticles." *Environmental science & technology* 52, no. 9 (2018): 5246-5258.
12. Esfahani, Milad Rabbani, Negin Koutahzadeh, Amirsalar R. Esfahani, **Mostafa Dadashi Firouzjaei**, Benjamin Anderson, and Lauren Peck. "A novel gold nanocomposite membrane with enhanced permeation, rejection and self-cleaning ability." *Journal of Membrane Science* 573 (2019): 309-319.
13. Mozafari, Mohammad, S. Fatemeh Seyedpour, Saeed Khoshhal Salestan, Ahmad Rahimpour, Ahmad Arabi Shamsabadi, **Mostafa Dadashi Firouzjaei**, Milad Rabbani Esfahani et al. "Facile Cu-BTC surface modification of thin chitosan film coated polyethersulfone membranes with improved antifouling properties for sustainable removal of manganese." *Journal of Membrane Science* 588 (2019): 117200.

#### **Honors and Awards**

- Ranked **10th** among more than **11'000** contestants in the master of Science and Engineering National Entrance Exam-Material Science and Engineering (2015)
- Ranked **1st** among the Material Science and Engineering class of 2011 at the Iran University of Science and Technology, National University Entrance Exam (2011)

#### **Software and Programming**

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| <ul style="list-style-type: none"> <li>• Python</li> <li>• Materials Studio</li> <li>• MATLAB</li> <li>• Autodesk-3DS MAX</li> <li>• Adobe Photoshop CC</li> <li>• Edraw MAX</li> <li>• Google Sketchup</li> </ul> | <p><b>Funded Proposals</b></p> <ul style="list-style-type: none"> <li>• "Development of multifunctional polymeric membranes for advanced water treatment: Selective removal of Polyfluoroalkyl substances (PFAS), dyes, and bacterial" <b>National Water Center (US)</b>.</li> </ul> |
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#### **Links**

- Home page: <https://www.mostafa-firouzjaei.com>
- Publication list on Google Scholar: <https://scholar.google.com/citations?user=Zk8e28AAAAAJ&hl=en&oi=ao>
- Twitter: [@mdfirouzjaei](#)
- LinkedIn: <https://www.linkedin.com/in/mostafa-dadashi-firouzjaei/>