

Curriculum Vitae

Mostafa Dadashi Firouzjaei

University of Alabama
Tuscaloosa, Alabama, US

mdfirouzjaei@crimson.ua.edu
<http://www.mostafa-firouzjaei.com>
(205)-8860806

Research Interests

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

Professional Experience

- Founder, and CEO of "**MATCH Engineering** (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
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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)
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Refereed Journal Articles

First Authored Articles:

1. **Firouzjaei, M.D.**, Seyedpour, S.F., Aktij, S.A., Giagnorio, M., Bazrafshan, N., Mollahosseini, A., Samadi, F., Ahmadalipour, S., Firouzjaei, F.D., Esfahani, M.R. and Tiraferri, A., 2020. Recent advances in functionalized polymer membranes for biofouling control and mitigation in forward osmosis. *Journal of Membrane Science*, **2020**
2. **Firouzjaei, M.D.**, Afkhami, F.A., Esfahani, M.R., Turner, C.H. and Nejati, S., 2020. Experimental and molecular dynamics study on dye removal from water by a graphene oxide-copper-metal organic framework nanocomposite. *Journal of Water Process Engineering*, **2020**
3. Pejman, M.⁺, **Firouzjaei, M.D.**⁺, Aktij, S.A., Das, P., Zolghadr, E., Jafarian, H., Shamsabadi, A.A., Elliott, M., Esfahani, M.R., Sangermano, M. and Sadrzadeh, M., 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** (⁺Same Contribution as First Author)
4. Seyedpour, S.F. ⁺, **Firouzjaei, M.D.**⁺, Rahimpour, A., Zolghadr, E., Arabi Shamsabadi, A., Das, P., Afkhami, F., Sadrzadeh, M., Tiraferri, A. and Elliott, M., 2020. Toward Sustainable Tackling of Biofouling Implications and Improved Performance of TFC FO Membranes Modified by Ag-MOF Nanorods. *ACS Applied Materials & Interfaces*, **2020** (⁺Same Contribution as First Author)
5. Pejman, M.⁺, **Firouzjaei, M.D.**⁺, Aktij, S., Das, P., Zolghadr, E., Jafarian, H., Arabi Shamsabadi, A., Elliott, M., Sadrzadeh, M., Sangermano, M. and Rahimpour, A., 2020. In Situ Ag-MOF Growth on Pre-Grafted Zwitterions Imparts Outstanding Antifouling Properties to Forward Osmosis Membranes. *ACS Applied Materials & Interfaces*, **2020** (⁺Same Contribution as First Author)

6. Seyedpour, S.F. ⁺, Arabi Shamsabadi⁺, A., Salestan, S. ⁺, **Firouzjaei, M.D**⁺, Sharifian Gh, M., Rahimpour, A., Afkhami, F., Kebria, M.R., Elliott, M.A., Tiraferri, A. and Sangermano, M., 2020. Tailoring the Biocidal Activity of Novel Silver-Based Metal Azolate Frameworks. *ACS Sustainable Chemistry & Engineering*, 8(20), **2020** (⁺[Same Contribution as First Author](#))
 7. Esfahani, M.R. ⁺, Aktij, S.A. ⁺, Dabaghian, Z. ⁺, **Firouzjaei, M.D.** ⁺, Rahimpour, A. ⁺, Eke, J. ⁺, Escobar, I.C., Abolhassani, M., Greenlee, L.F., Esfahani, A.R. and Sadmani, A., 2019. Nanocomposite membranes for water separation and purification: Fabrication, modification, and applications. *Separation and Purification Technology*, **2019** (⁺[Same Contribution as First Author](#))
 8. **Firouzjaei, M.D.**, Shamsabadi, A.A., Aktij, S.A., Seyedpour, S.F., Sharifian Gh, M., Rahimpour, A., Esfahani, M.R., Ulbricht, M. and Soroush, M., 2018. 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*, **2018**
 9. **Firouzjaei, M.D.**, Shamsabadi, A.A., Sharifian Gh, M., Rahimpour, A. and Soroush, M., 2018. A novel nanocomposite with superior antibacterial activity: a silver-based metal organic framework embellished with graphene oxide. *Advanced Materials Interfaces*, **2018**
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Other co-Authored Articles:

1. Mozafari, M., Seyedpour, S.F., Salestan, S.K., Rahimpour, A., Shamsabadi, A.A., **Firouzjaei, M.D.**, Esfahani, M.R., Tiraferri, A., Mohsenian, H., Sangermano, M. and Soroush, M., 2019. 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*, **2019**
 2. Esfahani, M.R., Koutahzadeh, N., Esfahani, A.R., **Firouzjaei, M.D.**, Anderson, B. and Peck, L., 2019. A novel gold nanocomposite membrane with enhanced permeation, rejection and self-cleaning ability. *Journal of Membrane Science*, **2019**
 3. Rahimpour, A., Seyedpour, S.F., Aktij, S., **Firouzjaei, M.D.**, Zirehpour, A., Arabi Shamsabadi, A., Salestan, S., Jabbari, M. and Soroush, M., 2018. Simultaneous improvement of antimicrobial, antifouling, and transport properties of forward osmosis membranes with immobilized highly compatible polyrhodanine nanoparticles. *Environmental science & technology*, **2018**
 4. Zirehpour, A., Rahimpour, A., Khoshhal, S., **Firouzjaei, M.D.** and Ghoreyshi, A.A., 2016. The impact of MOF feasibility to improve the desalination performance and antifouling properties of FO membranes. *RSC advances*, **2016**
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Proposal Writing Experience

- Funded Proposal, total amount of **\$40,000**, “*Development of multifunctional polymeric membranes for advanced water treatment: Selective removal of Polyfluoroalkyl substances (PFAS), dyes, and bacteria*” **National Water Center (University of Alabama)**, and **United States Environmental Protection Agency (USEPA)**, 2020

My Role in this proposal: I) Identified topic, II) led drafting and revision of proposal, III) developed figures.

Honors & Awards

- Recipient of “**Engineer of Year**” award, Civil, Construction and Environmental Engineering Department, University of Alabama, **2020**
- Recipient of “**Graduate Council Fellowship (GCF)**”, Total value of \$52,000, University of Alabama, **2020**

- 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**
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Links

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