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Ph.D. Student in Chemical Engineering, admitted Autumn 2018

Publications

PUBLICATIONS

- **Electrochemical Wastewater Refining: A Vision for Circular Chemical Manufacturing.** *Journal of the American Chemical Society*
Miller, D. M., Abels, K., Guo, J., Williams, K. S., Liu, M. J., Tarpeh, W. A.
2023
- **Reports from the Frontier: Electrifying Chemical Transformations and Separations to Valorize Wastewater Nitrogen** *ELECTROCHEMICAL SOCIETY INTERFACE*
Liu, M. J., Tarpeh, W. A.
2023; 32 (2): 29-31
- **Reactive Separation of Ammonia from Wastewater Nitrate via Molecular Electrocatalysis** *ENVIRONMENTAL SCIENCE & TECHNOLOGY LETTERS*
Liu, M. J., Miller, D. M., Tarpeh, W. A.
2023; 10 (5): 458-463
- **Mass Transport Modifies the Interfacial Electrolyte to Influence Electrochemical Nitrate Reduction** *ACS SUSTAINABLE CHEMISTRY & ENGINEERING*
Guo, J., Brimley, P., Liu, M. J., Corson, E., Munoz, C., Smith, W., Tarpeh, W. A.
2023
- **Electrified Ion Exchange Enabled by Water Dissociation in Bipolar Membranes for Nitrogen Recovery from Source-Separated Urine.** *Environmental science & technology*
Dong, H., Laguna, C. M., Liu, M. J., Guo, J., Tarpeh, W. A.
2022
- **Recovery of Clean Water and Ammonia from Domestic Wastewater: Impacts on Embodied Energy and Greenhouse Gas Emissions.** *Environmental science & technology*
Shin, C., Szczuka, A., Liu, M. J., Mendoza, L., Jiang, R., Tilmans, S. H., Tarpeh, W. A., Mitch, W. A., Criddle, C. S.
2022
- **Catalytic Performance and Near-Surface X-ray Characterization of Titanium Hydride Electrodes for the Electrochemical Nitrate Reduction Reaction.** *Journal of the American Chemical Society*
Liu, M. J., Guo, J., Hoffman, A. S., Stenlid, J. H., Tang, M. T., Corson, E. R., Stone, K. H., Abild-Pedersen, F., Bare, S. R., Tarpeh, W. A.
2022
- **The role of intraparticle diffusion path length during electro-assisted regeneration of ion exchange resins: implications for selective adsorbent design and reverse osmosis pretreatment** *Chemical Engineering Journal*
Dong, H., Wu, Z., Liu, M. J., Tarpeh, W. A.
2020
- **Building an operational framework for selective nitrogen recovery via electrochemical stripping.** *Water research*
Liu, M. J., Neo, B. S., Tarpeh, W. A.
2019; 169: 115226
- **Aerosol Fragmentation Driven by Coupling of Acid-Base and Free-Radical Chemistry in the Heterogeneous Oxidation of Aqueous Citric Acid by OH Radicals** *JOURNAL OF PHYSICAL CHEMISTRY A*
Liu, M. J., Wiegel, A. A., Wilson, K. R., Houle, F. A.
2017; 121 (31): 5856-70

- **Diffusive confinement of free radical intermediates in the OH radical oxidation of semisolid aerosols** *PHYSICAL CHEMISTRY CHEMICAL PHYSICS*
Wiegel, A. A., Liu, M. J., Hinsberg, W. D., Wilson, K. R., Houle, F. A.
2017; 19 (9): 6814–30