Department of Chemistry and Biomolecular Science
Clarkson University
Seminar

Dr. Mohamed Ateia

United States Environmental Protection Agency
Center for Environmental Solutions & Emergency Response

will speak on:

Fighting Against Forever Chemicals

Abstract: Separating PFAS from water and ultimately degrading them into products that lack carbon-fluorine bonds will be important for decontaminating our water resources. Yet conventional treatment methods have critical deficiencies, such as low affinity toward short-chain PFAS, and are impacted by background organic and inorganic constituents. The recent advancements in the development of PFAS-selective adsorbents now offer the possibility of short- and long-chain PFAS treatment using regenerable sorbents such as cyclodextrin polymers and amine-functionalized materials. However, currently available data the treatment of PFAS-impacted waters will necessitate a treatment train approach. Such tandem-mode setups would consist of a separation step (e.g., adsorption or nanofiltration) followed by a destruction process applied to the adsorbents, retentate, and/or regeneration solutions. This talk will cover some of the emerging technologies that show promise to solve some of these challenges.

Friday, September 23, 2022, 3:30 pm ET, BH Snell Hall B10L

ZOOM Meeting

Dr. Mohamed (Moha) Ateia Ibrahim's research at the US EPA targets the removal of micropollutants (mostly PFAS) and the assessment of various separation and destruction technologies from lab-scale to Superfund sites. Inspired by the realization that conventional water treatment techniques will not be able to treat these problems, Moha has devoted himself to developing practical remediation solutions that draw on his expertise in engineering and chemistry. Specifically, he has focused on the assessment of conventional methods (e.g., GAC, IX resins), the development of new materials and/or composites to adsorb/degrade micropollutants, and the mobility of new classes of contaminants in the environment (e.g., microplastics). He has initiated and led over a dozen of research collaborations with researchers across the world to target micropollutants in a practical way.

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