

# Clarkson University

## Fall 2022 David A. Walsh '67 Arts & Sciences Seminar Series

Friday, September 23<sup>rd</sup> @ 12pm in SN 214

### Proactive Framework to Avoid Regrettable Substitution with PFAS Replacement Chemicals

New chemical formulations are being tested to replace PFAS-containing fire-fighting foams in several applications, including systems designed to protect aviation fuels, weapons, chemical tankers, and large petroleum tanks. The current efforts are focused on identifying and synthesizing new surfactant molecules and additives that do not contain perfluorinated chains but display the desired fire-fighting properties. If the same fire-extinguishing properties could be achieved, the new chemical formulations are expected to be as persistent and mobile if released to the environment as their fluorinated counterparts. Investigating the impacts of novel PFAS-free foams on environmental and human health is necessary to ensure they are safer than PFAS foams and prevent a potential global widespread contamination in the future. This talk will highlight the proactive approaches that we are proposing to allow making evidence-based decisions regarding the safe implementation of the new alternative chemicals, which will also save millions of dollars of remediation costs in case of replacing PFAS with 'new' persistent and toxic chemicals.

### 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.



The Arts & Sciences Seminar Series is a weekly colloquium series that has been supported by the School of Arts & Sciences Advisory Council at Clarkson University especially through generous gifts from David A. Walsh '67.

SA&S 300: Arts and Sciences Seminar is a one credit course intended to foster an interdisciplinary outlook in undergraduates majoring in the School of Arts and Sciences.

\*In-person Walsh seminars will not be broadcast via Zoom this semester, but may be available for viewing as a recording. Please contact [sbailey@clarkson.edu](mailto:sbailey@clarkson.edu) or [cfrazier@clarkson.edu](mailto:cfrazier@clarkson.edu) for details.