



## “FOREVER NO MORE: COMPLETE PFAS DESTRUCTION IN WATER AND SOLIDS”

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### **ABSTRACT**

Per- and polyfluoroalkyl substances (PFAS) are synthetic chemicals used since the 1940s. Their ubiquity, persistence, and toxicity have raised widespread concern. In this talk, I will present recent advances in photoelectrochemical processes that not only destroy target PFAS but also mineralize them to fluoride ions in complex water matrices under ambient conditions. I will also introduce a piezoelectric ball-milling platform that generates kilovolt-scale potentials in the solid phase, enabling PFAS destruction and mineralization in soils, spent sorbents, and chemical wastes at ambient conditions. Together, these complementary approaches support one conclusion: PFAS are not “forever” chemicals.

### **BIOGRAPHY**

**Dr. Yang Yang** is an Associate Professor of Clarkson University. Dr. Yang specializes in the synthesis and characterization of advanced electrocatalysts and piezoelectric materials and the exploration of their environmental applications, such as disinfection, emerging contaminant control, and harmful algal bloom mitigation. Dr. Yang has published peer-reviewed articles as first author or corresponding author in flagship journals (Environmental Science & Technology family journals, ACS Catalysis, Nature Water, etc.) and owns three patents in subject areas of emerging contaminant analysis, wastewater treatment, and flue gas purification. He is the co-founder of ResET Water, a startup company dedicated to commercializing electrochemical water treatment technology. He is an associate editor of Chemical Engineering Journal Advances and Emerging Contaminants. He is an Early Career Editorial Board member of ACS ES&T Engineering.

His research group at Clarkson received funding support from NSF, DoD, DoE, Bill and Melinda Gates Foundation, New York State Department of Environmental Conservation, and the Environmental Research and Education Foundation. In 2023, he received the prestigious NSF CAREER award. He is also the recipient of the Chinese-American Professors in Environmental Engineering and Science (CAPEES) Early Career Award in 2024. The American Academy of Environmental Engineers and Scientists introduced him to the “40 under 40 recognition program”.