

ESCSI 2026 John Ries Scholarship Recipient

Alyssa Wentzel



Alyssa Wentzel is a Ph.D. student in Environmental Engineering and an NSF-NRT TREAWS Fellow in the Environmental Fate and Remediation Lab under Dr. Tonoy Das at Texas A&M University-Kingsville. Her research focuses on understanding the fate, transport, and removal of emerging contaminants, particularly per- and polyfluoroalkyl substances (PFAS), in coastal and stormwater systems. She integrates organic matter-based frameworks and mineral surface chemistry to investigate the mechanisms controlling PFAS interactions in environmental systems through field sampling and laboratory-based batch experiments. Prior to her Ph.D. studies, Alyssa earned an Honors Bachelor of Science with Distinction in Marine Science and an Honors Bachelor of Arts in Public Policy from the University of Delaware.

Alyssa's proposed research investigates how engineered materials, including expanded shale, clay, and slate (ESCS), can be optimized for removing PFAS in stormwater systems. She is interested in examining how biofilm-derived organic matter and extracellular polymeric substances interact with ESCS materials to influence contaminant sorption, hydraulic performance, and long-term treatment efficiency. Ultimately, this work aims to inform the design of improved biofiltration and bioretention systems for managing emerging contaminants.