



Stony Brook University

Department of Civil Engineering
College of Engineering and Applied Sciences

SPRING 2021 ONLINE SEMINAR SERIES

Dr. Loretta Fernandez, Ph.D.

Associate Professor, Department of Civil and Environmental Engineering,
Northeastern University

Monday, April 19th, 2:40 – 3:35 PM

ZOOM LINK: Meeting ID: 950 6760 3617; Passcode: 426506

<https://stonybrook.zoom.us/j/95067603617?pwd=dXQybEprSkNITFY3WHIwYjViUG95UT09>

How well are sediment remediation efforts working? Passive sampling tools to measure contaminant flux and bioavailability

Abstract

Sediments contaminated with persistent organic pollutants (POPs) are present along all of our coasts and under inland waters throughout the United States. At many locations, including Superfund sites, the reduction of human-health risks requires sequestering contaminated sediments beneath engineered caps or with sorptive amendments in order to control the transfer of contaminants back to surface waters or to the tissues fish or shellfish. New tools in the form of passive samplers have been developed to facilitate the measurement of low concentrations of POPs in water and sediment porewaters. Here, we demonstrate their use for determining the effectiveness of different remediation strategies in terms of reducing contaminant transfer across the sediment-water interface and to benthic organisms and fish.



Speaker Bio

Loretta A. Fernandez joined Northeastern University's departments of Civil and Environmental Engineering and Marine and Environmental Sciences in August 2013. She received her B.S. in Civil and Environmental Engineering from Northeastern University before pursuing S.M. and Ph.D. degrees at the Massachusetts Institute of Technology. Her graduate work focused on the development of passive sampling tools and techniques for measuring persistent organic pollutants in aquatic environments and porous media. Dr. Fernandez also worked as a Fellow with the National Research Council, applying passive sampling techniques at superfund sites in coastal regions in California and Rhode Island, measuring pesticides, polychlorinated biphenyls (PCBs), and contaminants of emerging concern in marine environments. Her research and teaching interests relate to investigating the transport, transformation, and biological exchange of organic contaminants in the environment.