Nov 7th, 4:00 PM - 5:00 PM

Wake Up Barren Soil! Improving Enzymatic Function of Contaminated Soils

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Wake up barren soil! Improving enzymatic function of contaminated soils

WHEN: November 7, 4:00 pm
WHERE: CELS 120 lecture hall

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Chemistry and Biochemistry Department (MSU)

A legacy of industrial use in metropolitan areas has left many soils contaminated with heavy metals and organic compounds. In some impacted soils, contaminants have altered the soils' properties and ability to function. Soil microorganisms exude enzymes that break down nutrients, helping to nourish microorganisms and plants. Productive soils are often characterized by high enzymatic activities that are needed to convert decaying matter to plant nutrients. In soils where enzymatic function is low or nonexistent, plants may lack nutrients and fail to thrive. This case-study focuses on such a site within Liberty State Park in Jersey City, NJ, a brownfield that was once a railyard built on landfill from development in New York City. Our work is aimed at understanding why differently contaminated areas within the park have varying levels of enzymatic function. One application of this work is to discover processes to enhance soil biochemical function, to convert contaminated soils to productive and functional environments, and to increase enzyme function in contaminated, poorly functioning soils.

For more information contact Dr. Stefanie Brachfeld at 973-655-5129