Environmental Science Graduate Program Student Seminar Series

The Use of Biosolids Application on Restoring Degraded Landscapes

- **Alice Synder**

  Smith 3150 | 3 - 1 - 19 | 3:00 - 4:00 pm

Abstract:

As the US is becoming less industrialized, thousands of acres of brownfields are leaving land barren and ecologically damaged. In particular, steel slag waste can cause heavy metal toxicity and hyper-alkali conditions, leading to detrimental effects on wildlife, plant, and microbial communities. For my team's research, we will be focusing on the utility of biosolids, and biosolids blends application for restoring degraded soils. We will begin by obtaining long-term, proof of concept data from re-sampling past biosolids experiments and comparing results of organic matter stabilization and overall soil and plant health over time. This timeline will assist in tailoring our soil blends for optimum soil quality and plant growth. Additionally, we will set up a greenhouse mesocosm experiment that will simulate degraded soils from a former industrial site and test varying blends of biosolids, compost, water treatment residual, biochar, along with other various soil amendments. Lastly, a public opinion study will measure the perceptions on the use of biosolids. Our goal is to develop strategies for future remediation methods of heavily degraded urban sites.