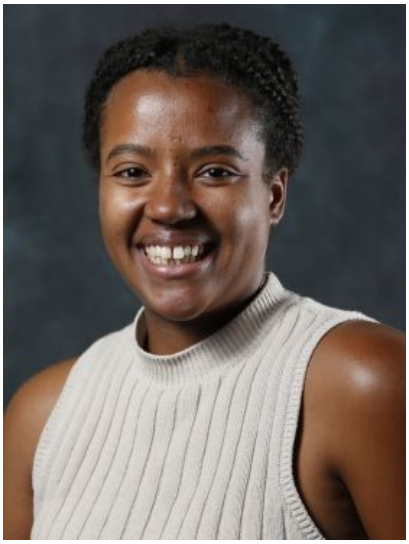
Environmental Science Graduate Program Student Seminar Series

Evaluation of Biochar and Biosolids Amendments for Remediation of Sandy Loam Soils Contaminated by Fly Ash Disposal Ponds



- **Loryssa Lake**

Cunz 330 | 11 - 16 - 18 | 3:00 - 4:00 pm

Abstract/Summary:

The United States alone produces hundreds of millions of coal combustion byproducts each year with less than half of it being utilized. The remaining portions are primarily disposed of in settling ponds or lagoons. These byproducts, particularly fly ash, contain numerous contaminants including arsenic, chromium, boron, selenium, nickel, and cadmium. Until 2015, these ponds were not well regulated and there were no requirements for lining of ponds. This enabled contaminants to more easily leach through the soil profile to contaminate groundwater and enter the food chain. And even now, the new regulations requiring the lining of ponds do not apply to retired power plants that may still have lagoons in operation resulting in residual contamination. This presentation will overview a potential remediation strategy that was performed to evaluate the effectiveness of using biochar and biosolids amendments to reduce metal(loid) mobility in fly ash residually contaminated soil. I will also outline my current research project which assesses the risk of land applied water treatment residuals for microcystin.