

THIS WEEK IN SOIL SCIENCE



Title: **Plant-assisted attenuation of antibiotics in municipal biosolids**

Presenter: **Theresa Adesanya**, Environmental Science, UNBC

Date: **Friday October 21 at 3.00pm** (Zoom with an in-person viewing option)

Abstract: Biosolids and wastewater contain contaminants, including antibiotics, which are ingested by humans and excreted intact or as metabolites. Land application of biosolids releases antibiotics into the environment and may lead to the development of antibiotic resistance in pathogenic microbes, with dire consequences for human health. Remediation approaches such as constructed wetlands and terrestrial phytoremediation can be implemented for the removal of contaminants from biosolids before land application, disposal, or recycling. However, the rate of dissipation of microcontaminants in constructed wetlands or terrestrial phytoremediation systems in the early stages when plants are not fully established is currently not fully understood. Cattail and switchgrass can effectively remove inorganic contaminants from soils and biosolids in in-situ phytoremediation systems, but little is known about their role in the attenuation of organic contaminants, such as antibiotics. Root sorption and plant uptake are mechanisms by which plant-assisted attenuation of antibiotics can be achieved. This presentation focuses on the dissipation of sulfamethoxazole and trimethoprim from biosolids and the phytoextraction and rhizofiltration of sulfamethoxazole and ciprofloxacin from aqueous systems.

Biography: Dr. Theresa Adesanya is an assistant professor in the Department of Geography, Earth, and Environmental Sciences at UNBC. She obtained a PhD in Soil Science from the University of Manitoba. Her research expertise includes soil fertility and chemistry, soil physical processes, land reclamation, and land remediation.

How to Join:

In-person McM1 154 Please note that Theresa will be joining us via zoom, but those of us on-campus can (and do) login as a group.

Livestreaming via zoom is available for this presentation; pre-registration required.

<https://ubc.zoom.us/meeting/register/u5Ukd-6pqzkiH9C6n4jDB67hk1fZhy2OL6kL>

After registering, you will receive a confirmation email containing information about joining the meeting.

ALL WELCOME