



SCHOOL OF
ENVIRONMENTAL
STUDIES

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**UnWELL: Assessing the transport mechanisms,
and implications for antimicrobial resistant
organisms (ARO) in private drinking
groundwater wells in Ontario**

Fecal contamination of drinking water represents a threat to public health in Ontario and Canada, and particularly in rural communities reliant on private well water. Private well water supplies in Canada are unregulated, with supplies frequently impacted by anthropogenic activities including agricultural runoff and septic system leakage. Consequently, these sources may be a potential reservoir for the transport of and human exposure to antimicrobial resistant organisms (AROs) and antimicrobial resistant genes (ARGs). The UnWELL project aims to increase our current scientific understanding of the presence, frequency and magnitude of ARO in private groundwater wells in Ontario; the role that private groundwater wells play in the environmental cycling and storage of AROs and ARGs, and the sources and pathways enabling the presence of ARO in private groundwater wells. Through the use of AMR E. coli, as a proxy for both ARO and fecal contamination, this study will advance our understanding of the impact of environmental and anthropogenic factors driving ARO/ARG in private groundwater wells, and the role that groundwater plays as both a reservoir and vector of resistance within the local/regional populations.

Thursday, February 11, 2021

2:30pm – 3:20pm