

SES SEMINAR LUNCH & LEARN SERIES

GUEST SPEAKER:



Dr. Brewster Conant

Department of Earth and Environmental Sciences
University of Waterloo

"Conceptualizing Groundwater/ Surface-Water Interactions: Processes Affecting Discharging

This seminar will provide a brief overview of how to conceptualize groundwater/surface water (GW/SW) interactions and how they influence contaminated groundwater (GW) discharging to surface water (SW) bodies (i.e., streams, rivers, ponds, lakes, wetlands, and tidally influenced areas). Contaminated GW discharging to SW can adversely impact aquatic life, drinking water quality, and human health, and can be difficult to characterize and evaluate. In contamination studies, characterizing individual flow paths (transport) and the reactions that occur along them is the key to evaluating the fate of the discharging contaminants. General concepts of how GW flows and discharges to different SW bodies on a larger scale will be presented, but it will be shown that the flow, biogeochemical, and biological processes within the much smaller scale transition zone (e.g., streambed and lakebed deposits) between the GW and SW will ultimately determine the impact the contaminated GW will have on the receiving SW body. Examples of the complexity of these systems and the influence of the transition zone will be presented for solvent, metal, and nitrate GW plumes. A comprehensive framework for conceptualizing GW/SW interactions will be presented that can be used to develop an understanding these systems and help guide investigations regarding not only water quality issues but also water quantity, and ecosystem issues.

Thursday - March 15th 2018 12:00-1:00pm

Alexander Hall 218

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