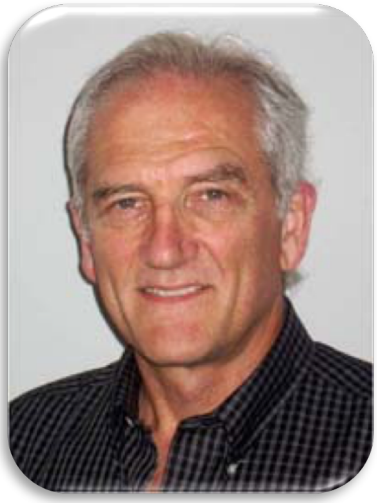
WATER SEMINAR – WILLIAMS LECTURE

"Vadose Zone Processes and Modeling"



John Nieber
University of Minnesota

Wednesday,
January 22, 2020
3:30 – 4:30 p.m.
East Campus - Hardin Hall Auditorium

ABSTRACT: The vadose zone is the layer of the earth's mantle between the soil surface and the saturated zone (groundwater). This zone is home for much of the fauna, and for all of the flora on earth's terrestrial landscape. The land surface separates precipitation (rainfall, snowmelt) into surface runoff and subsurface water storage (soil moisture and groundwater). The vadose zone serves as the source for all evaporation and transpiration on the earth's terrestrial landscape, and this functioning has a huge impact on the thermal balance of the earth's surface. The vadose zone also serves as the filter for contaminants that occur on the land surface and migrate downward towards groundwater reserves. Due to biological activities, geomorphological and anthromorphological processes the flow of water in the vadose zone is often preferential. This preferential flow can have significant influence on the processes of runoff generation, water availability to plants, groundwater recharge, and contaminant transport. This presentation will describe the processes of water flow and constituent transport in the vadose zone, provide ideas about conventional equations used to describe the flow and transport processes, and present some results from modeling exercises of observable phenomena.

Join Zoom Meeting
https://unl.zoom.us/j/165924945

The Water Seminar series is organized and sponsored by the School of Natural Resources and the Nebraska Water Center, part of the Daugherty Water for Food Global Institute (http://waterforfood.nebraska.edu/), with support from Institute of Agriculture and Natural Resources.

The videotapes and PowerPoint presentations for most lectures are available at
(http://unlcms.unl.edu/ianr/water-for-food/nebraska-water-center/spring-seminar-series) **within a week following the lectures**

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