 

*Presents:*

A BROWN BAG SEMINAR IN THE

WATER RESOURCES SEMINAR SERIES

**“Desalination for Irrigation:**

**Removing Just the Right Amount & Type of Salt***”*

*by*

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12:00 – 1:00 pm

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Rm 701, Kelly Hall

UTEP Campus

ABSTRACT

Increasing population and diminishing freshwater resources are leading to increased competition between users of freshwater, both in terms of surface water and groundwater. In the arid southwest and developing nations in Africa, the Middle East, and Latin America, many farms are located near a brackish water source but farmers are not able to afford desalination technology. Development of a cost effective desalination strategy could improve food security and health outcomes. With the right type of desalination process and membranes employed, it is possible that desalination could be a tool that could be used to supplement or replace current water sources. Many factors affect the cost of desalination systems, but some general trends are observed when comparing systems. Novel thermal approaches such as membrane distillation are sometimes reported to have a lower cost per unit of product water; however, they generally have very low flux and low recovery. Much of the literature describing pilot testing, or renewable/remote desalination systems have been installed, show intentionally low recovery. Lower recovery can allow the concentrate to be used for other non-potable purposes such as toilet flushing, showering, and feed stock or can be disposed of with less environmental impact. One must optimize the water recovery with capital and operating costs so as to maximize the amount of water produced from brackish groundwater while minimizing the impact of concentrate disposal. This talk will present several case studies in order to facilitate a discussion on desalination as a way to provide irrigation water.