

# A Novel Hybrid Forward Osmosis Process for Drinking Water Augmentation Using Impaired Water and Saline Water Sources

## Funding Agency:

- Water Research Foundation  
(AwwaRF 4150)

## Principal Investigators:

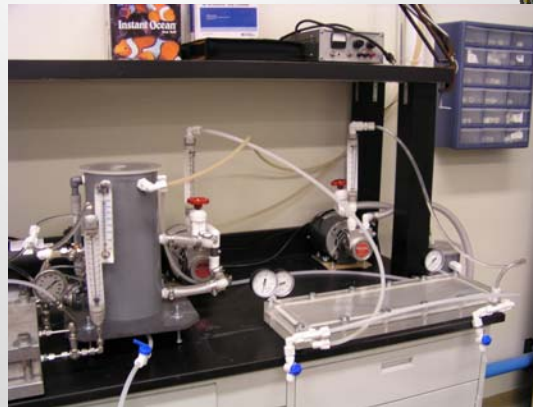
- Tzahi Y. Cath
- Jörg Drewes

## Students Participating:

- Carl Lundin

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# Project Objectives

- Investigate the performance and limitations of
  - the forward osmosis process for pretreatment of impaired/reclaimed water
  - the combined FO/RO desalination hybrid system and its effects on membrane fouling and organic solute rejection
- Develop recommendations and cost estimates for an FO/RO hybrid system



# Methodology

- Bench scale experiments were conducted with 2° & 3° effluents and with impaired river water
- Three months pilot scale experiments were conducted at Denver Water Recycling Plant with 2° and 3° effluents feed and seawater draw solution
- Dual barrier approach to removal of nutrients and organic micropollutants was demonstrated

