

Water and Waste Water Treatment

Our water and wastewater treatment research area at AUB encompasses several traditional chemical engineering disciplines including mass and heat transfer, adsorption, kinetics and interfaces with the “frontier disciplines” of materials, biotechnology and renewable energy. The processes we consider are primarily in the solid/liquid phase and most involve separation. The research is multidisciplinary in nature and involves extensive collaboration with other engineering, science and public health departments. Our research projects range from experimental work to mathematical modeling and optimization. Examples of our current research include:

1. The use of biomass waste materials, date pits and olive stones, for the adsorption and removal of metallic (Arsenic, Cobalt, Cadmium) and organic contaminants from water and wastewater streams.
2. The use of membrane processes (reverse osmosis, nano-filtration) for the removal of pharmaceuticals from water streams.
3. Renewable energy desalination of brackish and seawater.
4. Re-mineralization of permeate water.



Active Researchers:

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