Instructor: Kozet YAPSAKLI

Project Title: Evaluation the effect of heavy metal as a result of using reclaimed water in irrigation

Proposal No.: KozetYapsaklı-1

Number of Students: 3

Requirements (from students): To conduct experiments students should spend a minimum of 10 hours in the lab each week. Also students will be required to analyze the data and present their work once every two weeks.

Scope of the Project:
The main purpose of the study is to examine the possible accumulation of heavy metals in the soil and in plant in case it is used as water for irrigation. In order to observe the behavior of heavy metals after irrigation, a lab-scale lysimeter setup will be constructed. The accumulation of heavy metals present in irrigation water will be observed both in soil, plant and infiltration water. In this regard, the behavior of heavy metal in soil and plant samples will be observed and afterwards an agricultural irrigation will be tested on soil using the two different effluent water of domestic wastewater treatment plant in Istanbul to see the behavior of chemicals on soil and plant

Hardware/Software/Lab/Equipment Requirements:
TOC-TN analyzer, Atomic Adsorption Spectrophotometer, UV/Vis spectrophotometer, Spectrophotometer, 105°C and 550°C furnace

Development Plan:
0-1 months: Literature review
2-3 months: Startup of lettuce irrigation
3-7 months: Characterization of wastewater
3-7 months: Heavy metal measurements on soil, wastewater and lettuce.
7-9 months: Assessments and presentation of the results.