

## **Abstract**

Biofilm a community of microbial cells that cling together in forms of chains attached to a surface ( Sengupta, B. et al. al., 2016; Chattopadhyay , I. et al. 2022; Scialla , S. et al. 2021) through excreting DNA, protein, and polysaccharides (EPS).

The present study is designed to study chlorinated wastewater and its efficacy to form microbial biofilm from Nacogdoches (NWWTP) and San Augustine (SAWWTP) wastewater treatment plants (WWTP) .

To compare these efficacies to sterilized water (ST) and tap water(TW) which were collected by autoclaving distilled water and directly from a running tap respectively.

Bacterial sample( *Bacillus thuringiensis* (Bt)), a commonly used gram positive, biofilm forming bacteria was used to grow biofilms in sterilized water, tap water, and chlorine treated wastewater from the WWTPs,.

Increase in optical density (OD) at 600 nm indicated growth in all the cultures, while other techniques such as light microscopy, scanning electron microscopy (SEM) and ion exchange chromatography (IC) were used to study the extent of biofilm growth in the chlorine treated wastewater compared to sterilized water and tap water.