

Università degli Studi di Padova

Department of Civil, Environmental and Architectural Engineering PhD School in Civil and Environmental Engineering Sciences

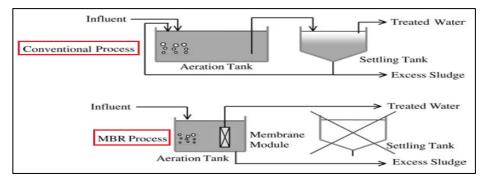


Mubbshir Saleem

Application of Dynamic Membranes in Wastewater Treatment

1. STUDY BACKGROUND

Membranes in wastewater treatment offers:



- Flexibility in operation
- Superior effluent quality
- Smaller footprintss

4. WHY STUDY DYNAMIC MEMBRANE

Dynamic membranes have benefits over conventional membranes



- Self-forming
- Regenerative

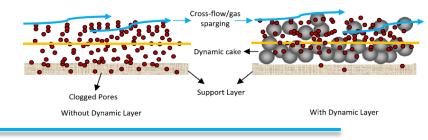
- High Filtration fluxes
- Low cost

2. PROBLEMS STATEMENT

- Fouling of membrane
- Cost of membrane Cleaning
- Cost of membrane replacement

3. DYNAMIC MEMBRANES; STATE OF THE ART

A fouling layer (cake layer) that is formed on the underlying support material (meshes etc.) due to the deposition of particles present inside the bioreactor.



5. STUDY OBJECTIVES

- Parameter optimization for Dynamic membrane development
- Evaluation of biological performance
- Definition of effluent quality