Masters Desertion Showcase
Year 2023

	Department: Environmental Engineering Programme: Masters in Engineering Specialization: Environmental Engineering
1	**Title of the Thesis** Urban photobioreactor for climate change mitigation and biofuels production
2	**Abstract** The extensive use of fossil fuels resulting in increased amount of GHG's is causing climate change and smog formation. There is global interest in developing sustainable biofuel production to reduce carbon dependency. Microalgae helps in CO2 sequestration from atmosphere and gives us oil (lipids) for as a potential source of raw material for third generation biofuels production as carbon neutral fuels. Flat panel photo bioreactor of microalgae has been explored in detail as a climate change mitigation option in urban areas, that have high levels of pollutants in the atmosphere. The basic idea behind this research project includes microalgae cultivation in a flat panel photo bioreactor under controlled environment, which will provide information regarding its potential usage in the urban areas for air quality improvement.
3	**Impact on Sustainability of Urban Regions or SDG-11 "Sustainable Cities and Communities"** The impact of this research thesis is based on mitigation and adaptation to climate change is in line with SDG- 11 (Sustainable Cities and Communities).
4	**Scholar Name (along with contact details)** Engr. Saim Khan 0331-2872033; saimkhan96@live.com
5	**Supervisor & Co-supervisor** Dr. Mehmood Ali (Supervisor) (mehmood@neduet.edu.pk) Prof. Dr. Atif Mustafa (Co-supervisor) (atifm@neduet.edu.pk)