



# AMITY UNIVERSITY MAHARASHTRA

Established vide Maharashtra Act No.13 of 2014, of Government of Maharashtra, and recognized under Section 2 (f) of UGC Act 1956.



Year 2023

Mumbai - Pune Expressway Bhatan, Somathne, Panvel,  
Mumbai, Maharashtra 410206



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## Battery Operated Vehicles





## Solar Panel and Renewable Energy Sources



The surplus energy generated from the solar panel is sent to the electricity grid.



## Microalgae cultivation

Amity University Mumbai Hon'ble Vice Chancellor inaugurates a new facility in June 2023 for the Cultivation of Microalgae developed by Dr. Abhishek Guldhe, Associate Professor, under the prestigious Ramalinga Swami Fellowship project funded by Dept. of Biotechnology, Govt. of India. The facility will treat wastewater and generate microalgal biomass for biofuel, biofertilizer, and bioproduct applications. It will also serve as a hub for interdisciplinary collaboration and research enabling in sustainable development for the researchers and students to explore multifaceted applications. Microalgae has emerged as a powerful platform for various applications such as biofuel, feed, fertilizer, nutraceuticals, CO<sub>2</sub> sequestration and wastewater treatment. At Amity University Maharashtra (AUM) campus under an integrated biorefinery approach a microalgae cultivation facility



Microalgae are considered as promising feedstock for biofuels production; however, the cultivation is still unfeasible due to input cost of chemical nutrients and freshwater requirement. Wastewater is comprised of nutrients such as ammonia, nitrates, phosphates, organic carbon etc. which can support microalgal growth. Use of wastewater can improve the economics of microalgae cultivation and reduces the freshwater footprint of the process. During cultivation microalgae also sequester CO<sub>2</sub> for photosynthesis process. The biomass generated can be used for production of biofuels, biofertilizer and various bioproducts. The facility developed at AUM simultaneously treats wastewater and generates microalgal biomass for biofuel, biofertilizer and bioproducts application. In this facility two open raceway ponds of 200L each are set up for cultivation of microalgae using synthetic media as well as wastewater. The open raceway pond cultivation systems are considered as efficient, cost effective and easy for operation to generate microalgal biomass. In these systems no external light is provided, cultivation is based on natural sunlight. For efficient mixing and aeration paddle wheels are used in open raceway ponds.



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