

**Microalgae for sustainable fuel technology: Coupling Photovoltaic Airlift
Photobioreactor (PAPB) and Energy efficient electrochemical harvesting (EEECH)
technology**

In this part of research, primary aim is to develop a suitable cost effective technology which can be performed at two levels: process optimization for high cell density cultivation of algal biomass under high level of CO₂ percentage in inlet air and dewatering the cultivated biomass efficiently for further processing for fuel production. Photoautotrophic cultivation and optimization of light intensity with nutrient source feeding will support high cell density formation and also eliminates the problem of light availability in the dense culture of photoautotrophic mode of cultivation. The specific combination of wavelength optimization and dewatering techniques can be resulted in development of sustainable process.