



Mass Cultivation of Microalgae for the Production of High Value Bio-Fuel Fractions through Hydro-Thermal Liquefaction (HTL)

Funding Agency: Ministry of Education, GoI

Project Investigator: Prof. Kaustubha Mohanty, Dept. of Chemical Engineering, IITG

Theme: Waste to bioenergy production under biorefinery approach

Highlights & Achievements:

1. Microalgae mediated wastewater treatment process developed.
2. Process optimized and scaled-up from flasks to large-scale PBR.
3. Biomass feedstock obtained for biofuel and biorefinery applications.
4. Microalgae and sewage sludge based co-hydrothermal liquefaction process developed for biocrude oil production.
5. Solid and liquid waste were recycled for production of co-products.

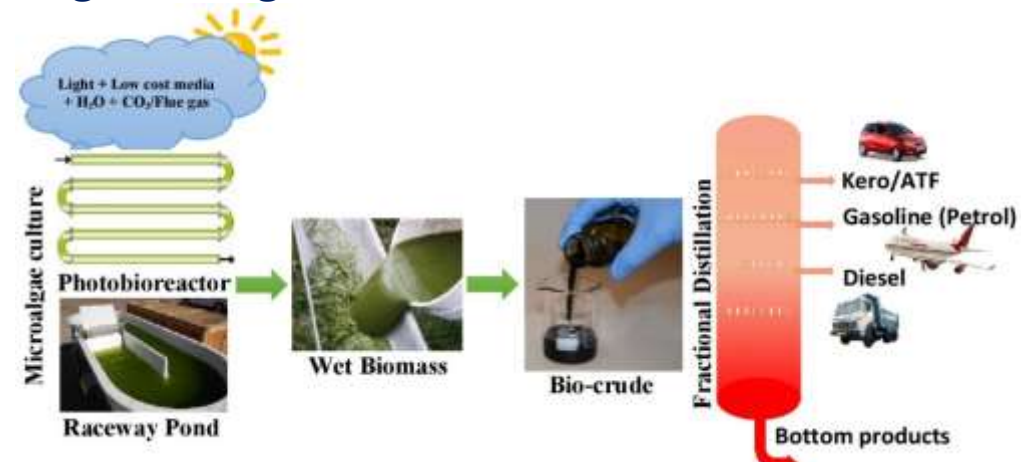


Fig. Schematic of the Process

Prototype and Process Developed

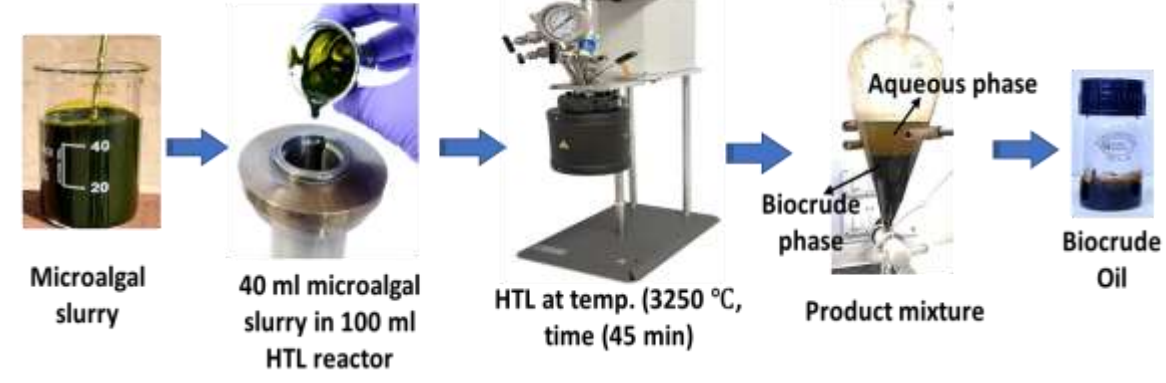
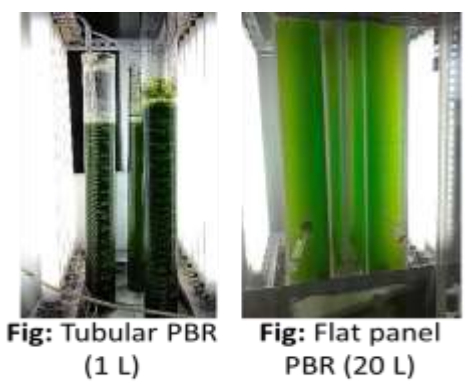
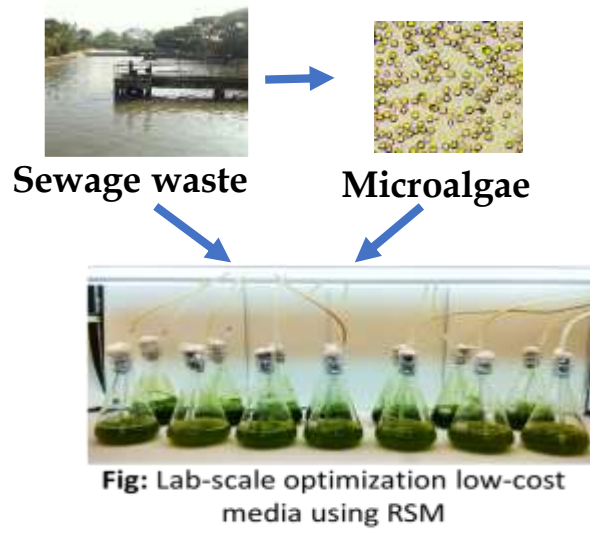


Fig: Flasks to large-scale microalgal biomass production

Fig: Microalgal biomass to biocrude conversion *via* HTL