Faculty Name : Dr. M. Jhansi L. Kishore

Dept: Chemical Engineering

Faculty ID: ITFCH036

Journal/ Conference Proceedings

- Name of Conference/Seminar: ADVANCES IN ALGAL BIOTECHNOLOGY Organized by (with address): IIT BOMBAY, MUMBAI Date: 21 November 2015
- Name of Conference/Seminar: SUSTAINABLE RESOURCE MANAGEMENT PROBLEMS & PROSPECTS
 Organized by (with address): INSTITUTE OF LAW, NIRMA UNIVERSITY
 Date: 19 March 2016

RECENT INNOVATIONS IN ALGAE TECHNOLOGY

M. Jhansi L. Kishore and Keval Shah Department of Chemical Engineering, Institute of Technology, Nirma University

Algae is not only a bunch of seaweed, it is an outstanding natural resource that can power everything from a light bulb to an entire city. New technology is exploring the various uses of algae to energy, big and small things cleanly, and scientists are asking whether a whole city could be run on algae, or if algae can be a power source for the whole city ranging from night lights to aircraft. The result of these inquiries is a wide array of solutions that can help us harness the power of this phenomenal plant to reduce our dependence on fossil fuels to power our modern world.

Especially for the light bulb bioluminescent algae are used. They soak up sunlight, absorb carbon dioxide, and in return, breathe out oxygen while emitting a soft fluorescent glow. In essence, it's nature's all-in-one version of a solar panel, a carbon ink and a light bulb.

There are traditional methods of wastewater treatment which are expensive and energy demanding. Algae-based systems can be deployed to recycle the energy, nutrients and valuable materials present in wastewater, improving the economics of the process for a range of waste water generators.

Algae is being used in many such applications and this poster showcases the recent innovative technologies developed for algal usage in various applications.

Municipal Solid Waste Disposal – Laws Enforced

M. Jhansi L. Kishore Department of Chemical Engineering Institute of Technology, Nirma University Email: <u>jhansi.kishore@nirmauni.ac.in</u>

Abstract

Today, environment is an important issue in the world politics and global economy as much as it is crucial for human life. Environmental deterioration, which is occurring in different forms of pollution, has now become a global issue. It not only effects the ecological environment but also influences economic and political environment. Today's environmental problems include global warming leading to climate change, water pollution contributing to human health problems, deforestation resulting desertification, destruction of species, ozone depletion, increasing urban and industrial wastes, etc are interrelated and the root cause of all these issues is the improper utilization of natural resources.

Coming to the Indian scenario, the environmental challenges include air pollution, water pollution, garbage, and pollution of the natural environment. One of the major source of pollution directly effecting human health is improper maintenance of trash and garbage which is a major place of breeding of flies and rats causing epidemics. Indian cities alone generate more than 100 million tons of solid waste a year which is a major issue for handling and disposal. In this paper I will present the methods of waste dumping to be followed, namely landfills and also discuss the laws our government has made in special reference to Municipal Solid wastes with case studies.

Keywords: Municipal Solid Waste Disposal, Environment, Solid Waste, Open Dump, Landfill