

Seminar Series

Organized by the Engineering Research Unit
Faculty of Engineering

Mesophilic Biohydrogen Production and Development of Trickle Bed Bioreactor

Abstract - Hydrogen is a clean energy source and generates only water when it burns. In addition, it can be produced from potential renewable raw materials such as organic wastes. Several processes may be applied to produce hydrogen including electrolysis of water, thermo catalytic reformation of hydrogen-rich organic compounds, and biological processes. Fermentative production of hydrogen is an exciting area of research and technology development that offer a potential means to produce hydrogen from a variety of renewable resources. This research investigates the mesophilic biohydrogen production in a trickle bed reactor under sequencing batch mode. New packing material was tested for biofilm formation starting from a pure culture. New thermal treatment strategy was developed to minimize contamination and it improved both hydrogen yield and hydrogen production rate. The maximum hydrogen composition of 83% could be achieved in reactor operation.

Bio - Dr. P. G. Rathnasiri is a senior lecturer of the University of Moratuwa. Graduated from UOM, Dept of Chemical and Process Engineering and holds a B.Sc. (Eng) First class, M.Sc. (UMIST, UK), PhD (NTNU-Norway) & Postdoc (UniLiege-Belgium). His research interests span from wastewater and solid waste treatment, Bio renewable energy to Process modeling and simulation.



Research Dissemination Seminar

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Board Room
Faculty of Engineering