



Assoc. Prof. Dr. Tawivan Kangsadan

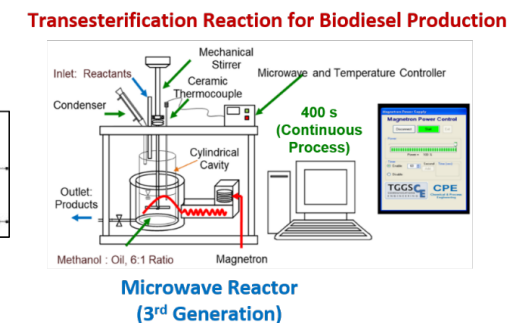
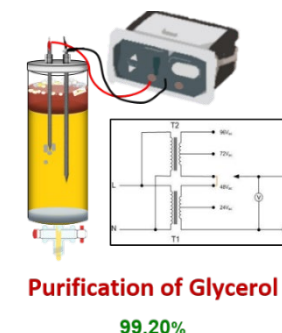
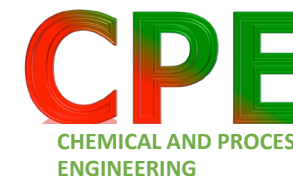
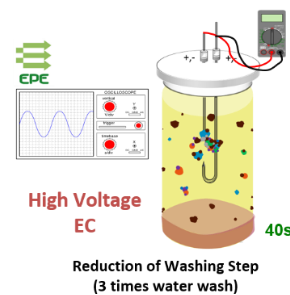
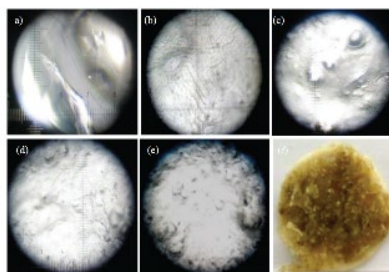
รองศาสตราจารย์ ดร. ทวีวรรณ กังสดาน

Research Area:

- Extraction Process: Biodiesel, Glycerol, Oil Emulsion
- Green Technology: High Electrical Field Pulse, Low and High Frequency (Ultrasonication, Microwave and Radio Frequency), Non-Thermal Processing
- Biochemical Synthesis
- Computer Simulation using Discrete Element Method (DEM) for Granular Materials and Colloidal Systems
- Custom Software using Visual Basic

Research Explanation:

“We focus on the application of electrical field and electromagnetic field to enhance the chemical process in order to increase the efficiency. Because of multidisciplinary research, we work closely with our partners in Microwave and Radio Frequency Research Lab-Communications Engineering Program and High Electrical Voltage Research Lab-Electrical Power Energy Engineering Program at TGGGS.”



Microwave & Radio Frequency Research Team



High Electrical Voltage Research Team

Feasibility Study

With HEF Separation (Electrocoagulation), possible high purity glycerol!

CRUDE GLYCEROL

CFD Simulation

Thermodynamics Analysis & Kinetics Reaction

Scale-up Design & Implementation

ASPEN Simulation & Conceptual Design

Transesterification - Catalyst
1. Homogeneous
2. Heterogeneous
- Heating
1. Microwave Irradiation
2. Ultrasonication
3. Radio Frequency

Separation - Gravitational Settling
- High Electrical Field

RAW MATERIAL Bio-oil, RPO, RPS

BIODIESEL 1G

Chemical and Process Engineering

TGGGS-Building, Floor 10th

Email: tawivan.k@tggs.kmutnb.ac.th

Tel: 02-555-2000 Ext.2928

