

**TS. DR. UMER RASHID**

Research Fellow, Nanomaterials Processing and Technology Laboratory

Expertise: Renewable Energy (Biodiesel), Heterogeneous Catalysts, Nano-magnetic Catalysts, Bio-based Catalysts

Email: [umer.rashid@upm.edu.my](mailto:umer.rashid@upm.edu.my)

Phone: +603.9769.7393

Google Scholar: [Link](#)

Scopus Author ID: [16031556400](#)

ResearchGate : [Link](#)

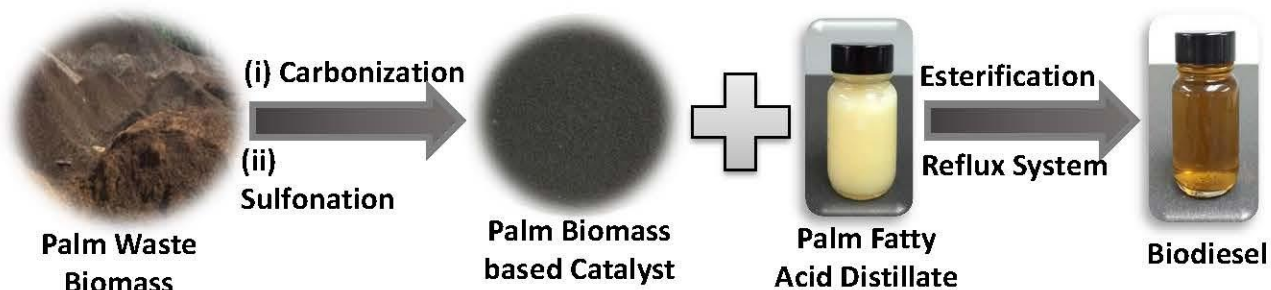


ORCID

## RESEARCH HIGHLIGHTS

### 1. Waste Biomass-based Catalyst for Biodiesel Production

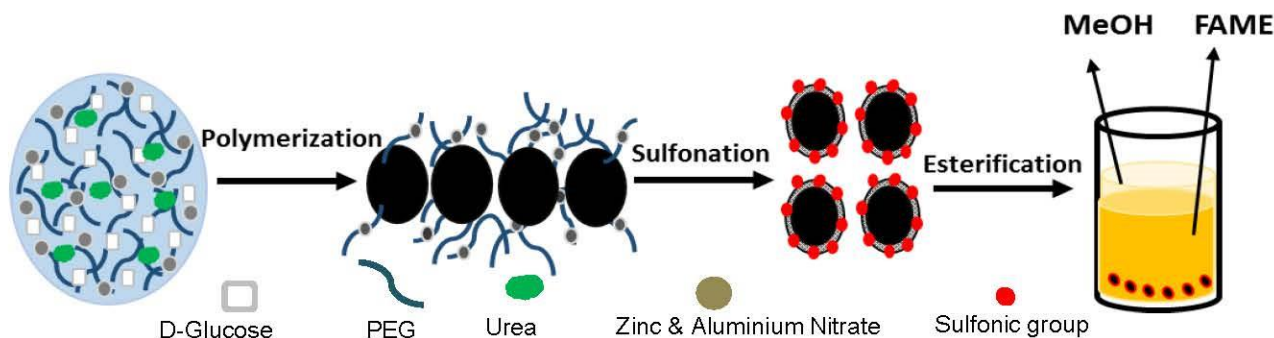
New sulfonated palm seed cake catalyst was synthesized for the catalytic performance of palm fatty acid distillate for biodiesel production. The produced catalyst offers benefits including green process, highly stable, recyclable and reusable, energy efficient, single pot and shorter reaction system for biodiesel synthesis with no contribution to saponification.



S.-I. Akinfalabi, **U. Rashid**, R. Yunus, Y.H. Taufiq-Yap. (2017). Synthesis of Biodiesel from Palm Fatty Acid Distillate using Sulfonated Palm seed Cake Catalyst. Renewable Energy, Vol. 111, Pages 611-619. Q1 Journal; IF= 6.274

### 2. Sulfonated Mesoporous Catalyst for Esterification

The main purpose of the study was to develop the carbonaceous mesoporous catalyst to enhance the conversion rate for methyl esters production, especially for high free fatty acid (FFA) waste feedstocks. The synthesized mesoporous catalyst possessed unique textural properties and better acid strength. The spent mesoporous catalyst had excellent recyclability of catalyst with high catalytic activity for esterification of palm fatty acid distillate (PFAD) to methyl esters.



S. Soltani, **U. Rashid**, R. Yunus, Y.H. Taufiq-Yap. (2016). Biodiesel Production in the Presence of Sulfonated Mesoporous  $\text{ZnAl}_2\text{O}_4$  Catalyst via Esterification of Palm Fatty Acid Distillate (PFAD). Fuel, Vol. 178, Pages 253-262. Q1 Journal; IF= 5.578