

## 2016 SATU Joint Research Scheme Program

### Host Application Form

Date:   25   /   04   /   16   (year/month/day)

#### 1. Host University

University of Malaya

#### 2. Host Unit

Nanotechnology & Catalysis Research Centre (NANOCAT)

#### 3. Joint Research Project Title

Hydrodeoxygenation of Non-Edible Oil to Renewable Green Hydrocarbon using Transition metal supported on Titania

#### 4. Principal Investigator

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#### 5. Co- PI from the same unit – If any

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#### 6. Project Details

Project Description	Research interest in biofuel production has increased significantly due to the necessity for a renewable fuel source and environmental degradation. Special attention has been given to the deoxygenation, which is an important method for a sustainable supply of biofuel for future generations. This work reports deoxygenation of triolein as
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# SATU Presidents' Forum

of Southeast and South Asia and Taiwan Universities  
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non-edible plant oil model compound with newly synthesized transition metals such as copper catalyst supported on titania ( $\text{Cu/TiO}_2$ ). A series of  $\text{Cu/TiO}_2$  with different amount of Cu loading was synthesized via wet-impregnation method. The physiochemical properties of  $\text{Cu/TiO}_2$  was characterized by X-ray diffraction (XRD), BET surface area, HRTEM, XRF and Raman and correlated to the catalytic performance of  $\text{Cu/TiO}_2$ . Among various Cu loading, 7.5 wt.%  $\text{Cu/TiO}_2$  showed remarkable catalytic performance (at least 80% conversion) and high selectivity for gasoline range hydrocarbon. The superior catalytic performance of  $\text{Cu/TiO}_2$  is ascribed to higher dispersion and synergistic action of Cu on  $\text{TiO}_2$ . This study suggests that the  $\text{Cu/TiO}_2$  is a promising catalyst for deoxygenation of triolein

## 7. Acknowledgement (Signed by the President or SATU representative to show recognition)

Name  
title

PROFESSOR DR. NOORSAADAH ABD. RAHMAN  
Deputy Vice-Chancellor  
(Research & Innovation)  
University of Malaya

Date: 2016 / 04 / 25



(signature)

(yyyy/mm/dd)

Please email [satu@email.ncku.edu.tw](mailto:satu@email.ncku.edu.tw) before 2016.4. 29(Fri.) for application with the subject line: <2016 SATU JRS host application –School Name>. Thank you.