

2016 SATU Joint Research Scheme Program Host Application Form

Date: 2016 / 04 / 18 (year / month / day)

1. Host University

University of Malaya

2. Host Unit

Department of Mechanical Engineering

3. Joint Research Project Title

Optimization on engine performance and biofuel production from tropical resources blend with waste cooking oil.

4. Principal Investigator

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5. Co- PI from the same unit – If any

Passport Name	Prof. Dr. Masjuki Hj Hassan		
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6. Project Details

Project Description	Biofuel produced from waste cooking oil blend with various feedstocks from tropical resources such as <i>Jatropha curcas</i> , <i>Calophyllum inophyllum</i> , and <i>Ceiba pentadra</i> will reduce the dependency from fossil fuel, reduce the environmental pollution and provide an
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SATU Presidents' Forum

of Southeast and South Asia and Taiwan Universities
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alternative way to manage the disposal of waste cooking oil. Blending of waste cooking oil with other feedstocks will alter the properties of the blended biofuel and therefore produces a better fuel efficiency biofuel. In this research, the suitable ratio of blended biofuel from waste cooking oil with various feedstocks will be tested. Then, the engine performance and emission of blended biofuel will be conducted in direct injection diesel engine. However, engines that are powered by using biofuel or blended biofuel are beneficial for reducing the emission or improved in fuel efficiency, but the blended biofuel might slip into the engine compartment due to damage in bearing, cams, piston rings, cylinder liners, valve stem seal or gaskets and contaminate the lubricating oil. Contamination of the lubricating oil may cause increased wear in the critical components, shortening or extending of oil life span, influence the frequency of oil changes, and lastly reduce the engine compartment durability. Therefore, effect of biofuel contaminations on the lubricating oil will be included in this study as well.

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

Name
title

PROFESSOR DR. NOORSAADAH ABD. RAHMAN
Deputy Vice-Chancellor
(Research & Innovation)
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50603 Kuala Lumpur

(signature)

Date: 2016 / 04 / 18 (yyyy/mm/dd)

Please email 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.