

### Editorial Corner

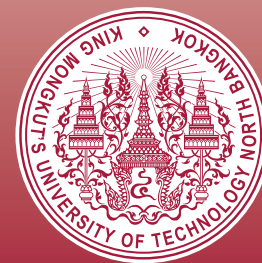
- 73 **CubeSat as a Tool for Hands-on Engineering Education and Research**  
*Suwat Kuntanapreeda*

### Review Article

- 75 **Itaconic Acid: A Promising and Sustainable Platform Chemical?**  
*Malinee Sriariyanun, Jan Hendrik Heitz, Patchanee Yasurin, Suvaluk Asavasanti and Prapakorn Tantayotai*

### Research Articles

- 83 **Design and Development of the Separation and Extraction of Palm Oil by Using Screw Extractor Machine**  
*Sorawin Phukapak and Chawisorn Phukapak*
- 95 **Effect of Moisture Adjustment on Physico-chemical Properties, Durability and Production Efficiency of Broiler Feed Pellets**  
*Suchot Subwilawan, Ampawan Tansakul, Phairoj Sridokgmai and Suvaluk Asavasanti*
- 104 **Expression Analysis of Defense Related Genes in Rice Response to *Bipolaris oryzae*, the Causal Agent of Rice Brown Spot**  
*Pattavipha Songkumarn, Patcharavipa Chaijuckam, Veeranee Tongsrri and Jonathan Jaime G. Guerrero*
- 116 **Genetic Diversity and Aggressiveness of *Bipolaris oryzae* in North-Central Thailand**  
*Patcharavipa Chaijuckam, Pattavipha Songkumarn and Jonathan Jaime G. Guerrero*
- 126 **Modelling of Gassing for VRLA OPzV (gel) Battery at 25°C**  
*Jibrán Hayat, Nisai H. Fuengwarodsakul, Jeanette Muenderlein and Timo Ruewald*
- 133 **Risk Rating of Precast Concrete Pile Fabrication Process: A Case Study in Bandung, Indonesia**  
*Adrian Firdaus, Yohanes Lim Dwi Adianto and Kevin Cornelius Wijaya*
- 140 **The Effects of Design Change on the Completion Time of Universitas Multimedia Nusantara Tower 3 Construction Project**  
*Theresita H. Setiawan, Stephen P. Wahyu and Altho Sagara*



**Paper Citation is as Followed:** Applied Science and Engineering Progress

**ISSN: 2672-9156**

#### **Schedule**

no. 1 January–March  
no. 3 July–September

no. 2 April–June  
no. 4 October–December

#### **Editorial Policy**

Paper, comprising review and report of original scientific research, will be judged for publication on the basis of evaluation by independent reviewers. Such reports and articles include those containing substantial supported theories, innovative work, substantial experimental results, useful and constructive discussion, and review articles standardized to regional or international acceptance. Each volume will comprise four issues. In addition, special issue containing the proceedings of conferences may be produced. These will be designated as supplements to the appropriate volume and number. An electronic journal is also provided on the website (<http://www.asep.kmutnb.ac.th>). The editors reserve the right to require revision of the submitted manuscript as a condition for final acceptance.

The university and the editorial board claim no responsibility for the contents or views expressed by the authors of individual articles. Copying allowed freely provided acknowledgement is made thereof. All articles submitted for publication will be assessed by a group of distinguished reviewers.

#### **Focus and Scope**

Applied Science and Engineering Progress (former journal name is King Mongkut's University of Technology North Bangkok International Journal of Applied Science and Technology [KMUTNB: IJAST] (2014–2018) and ASIAN International Journal of Science and Technology in Production and Manufacturing Engineering [AIJSTPME] (2008–2014)) is an international, double-blind peer-reviewed, open access scientific journal published by King Mongkut's University of Technology North Bangkok (KMUTNB) since 2008. Applied Science and Engineering Progress published original research articles, and includes reviews in areas of applied science and engineering. The journal also publishes high quality and peer-reviewed papers presented at conference hosted/co-hosted by KMUTNB to expand the research connection between scientists and engineers. Applied Science and Engineering Progress also aims to introduce research progress of applied science and achievements of engineering development to the world community by demonstrating the significance of research investigations and demonstrations.

The scope of the journal include, but are not limited to, the following Science and Engineering fields: Applied Chemistry, Applied Biotechnology, Food Science, Computing Technology, Energy Technology, Environmental Science, Health Science, Applied Mathematics, Production Engineering, Mechanical Engineering, Automotive Engineering, Electrical Engineering, Communication Engineering, Computer Engineering, Chemical Engineering, Industrial Engineering, Biomedical Engineering, Civil Engineering.

**Indexed by Thai-Journal Citation Index Centre (TCI), ASEAN Citation Index (ACI), CrossRef, Google Scholar and SCITE**

**Website for Submissions:** <http://www.asep.kmutnb.ac.th>

**Contact:** [asep@op.kmutnb.ac.th](mailto:asep@op.kmutnb.ac.th)

**Copyright © 2019** by King Mongkut's University of Technology North Bangkok. All rights reserved.

No part of this publication may be reproduced stored or transmitted in any material form or by any methods including electronic, mechanical, photocopying, recording or otherwise without the prior written permission of the publisher, except in accordance with the provisions of the Copyright Design and Patents Act 1988.