

# Foreword

Welcome to the fourth issue of 2023 for the Pertanika Journal of Science and Technology (PJST)!

PJST is an open-access journal for studies in Science and Technology published by Universiti Putra Malaysia Press. It is independently owned and managed by the university for the benefit of the world-wide science community.

This issue contains 30 articles; one short communication, two review articles and the rest are regular articles. The authors of these articles come from different countries namely Bangladesh, Belgium, England, India, Indonesia, Iraq, Japan, Malaysia, Mexico, Mozambique, Nigeria, Russia, Saudi Arabia and Thailand.

A review article titled “Knowledge mapping trends of Internet of Things (IoT) in plant disease and insect pest study: A visual analysis” was written by Muhammad Akmal Mohd Zawawi and colleagues from Malaysia and Indonesia. The primary aim of their review is to identify the current trends and explore hot topics of IoT in plant disease and insect pest research for future research direction via VOSviewer and R programming. A few highlights can be drawn from this study. First, global IoT application publication trends in plant disease and insect pest studies have grown for 12 years. This subject area is still an emerging topic with an annual scientific production growth rate of 48.74%. Second, the most productive country, such as India and China, produced 52% of the scientific document in the studied field. Collaboration among different countries in publishing research articles increases the published materials’ visibility and quality. Third, integration between cross-multidisciplinary knowledge domains such as machine learning, deep learning, image processing, and artificial intelligence for crop monitoring and decision support systems can produce excellent crop yield and reduce dependency on human resources. Detailed information on this study can be found on page 1621.

Norliza Dzakaria and co-researchers from Malaysia evaluated the Effect of Transition Metals Addition on the Nickel Oxide (NiO) Catalyst toward Reduction Behaviour in the Carbon Monoxide Atmosphere. This research revealed that the reduction reaction obeyed the consecutive mechanism, and NiO was completely reduced to Nickel (Ni). The 3% cerium-doped nickel oxide (Ce/NiO) possessed a higher surface. Furthermore, adding Ce to NiO enhanced a lower reduction temperature than adding cobalt, molybdenum, tungsten, and zirconium. Adding Ce to the NiO shifted the temperature-programmed reduction peaks to the lower temperature. It can be concluded that the reduction temperature of NiO decreases by the Ce with 3% Ce loading, which is sufficient to reduce NiO to Ni at 370°C. Further details of the article are available on page 1717.

Another article that we wish to highlight is “The correlation of stromelysin-1 and tissue inhibitor of metalloproteinase-1 with lipid profile and atherogenic indices in end-stage renal disease patients: A neural network study” by Habiba Khdair Abdalsada et al. from Iraq. They assessed stromelysin-1, TIMP1, and lipid profile parameters in the serum of 60 ESRD patients and 30 healthy controls. A neural network study was conducted to determine the best factors for predicting ESRD patients more susceptible to developing CVD using the cut-off value of the atherogenic index of plasma (AIP)  $>0.24$ . There is a state of dyslipidemia with high atherogenic indices and increased stromelysin-1 and TIMP1 in ESRD patients. The increase in stromelysin-1 and its inhibitor are correlated with some atherogenic indices and lipids. The neural network results indicated good predictability of the top four parameters (stromelysin-1, followed by eGFR, TIMP1, and the TIMP-1/stromelysin-1 ratio) in discriminating between ESRD patients with high risk for CVD from the lower-risk patients. Detailed information on this study is presented on page 2067.

We anticipate that you will find the evidence presented in this issue to be intriguing, thought-provoking and useful in reaching new milestones in your own research. Please recommend the journal to your colleagues and students to make this endeavour meaningful.

All the papers published in this edition underwent Pertanika’s stringent peer-review process involving a minimum of two reviewers comprising internal as well as external referees. This was to ensure that the quality of the papers justified the high ranking of the journal, which is renowned as a heavily-cited journal not only by authors and researchers in Malaysia but by those in other countries around the world as well.

We would also like to express our gratitude to all the contributors, namely the authors, reviewers, Editor-in-Chief and Editorial Board Members of PJST, who have made this issue possible.

PJST is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

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