Foreword

Welcome to the Third Issue of 2020 for the Journal of Science and Technology (JST)!

JST 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 20 articles; a short communication and the rest are regular articles. The authors of these articles come from different countries namely China, India, Indonesia, Iran, Iraq, Malaysia, Nigeria, Sudan, Tanzania, Thailand and Yemen.

Mohd Shahrol Abd Wahil and co-researchers from Universiti Kebangsaan Malaysia had assessed the health risk among adult and children on potential air pollutants released from the petrochemical plant in Malaysia: The result of air modelling. Hazard quotient (HQ) was used to assess non-carcinogenic risk, while lifetime cancer risk (LCR) was used to assess carcinogenic risk. The health risk assessment showed no risk of developing malignancy and non-cancer disorder among the workers and general population living surround the petrochemical plants. Further details of the article are available on page 859.

A regular article titled “Load Balancing using Enhanced Multi-Objective with Bee Colony optimization in cloud networks” was written by Abhikriti Narwal and Sunita Dhingra University Institute of Engineering and Technology, India. In their research, they found an effective adjustment of Enhanced Multi-objective task algorithm with load balancing for task scheduling. This technique was better than the earlier techniques in term of each performance attribute like average waiting time by 2.934%, processing cost by 17.6% and processing time by 20.5%. Detailed information on this study can be found on page 1049.

Another article that we wish to highlight is on “Spectrum Efficiency of Modulation Schemes for Network Optimization in 5GHz Dense Environments” by Mina Malekzadeh from Hakim Sabzevari University, Iran. They found out that utilizing wider channels and shorter guard intervals did not necessarily optimize the 802.11ax networks that were under heavy loads of many users. The modulation schemes from BPSK to 64-QAM was able to improve the network performance in line with increasing the bandwidth of channels. The best performance was accomplished by 64-QAM with 40, 80, and 160 MHz channels with 5/6 coding rate. However, for higher-order modulation including 256-QAM and 1024-QAM, the results prove otherwise. Detailed information on this study is presented on page 1063.

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 JST, who have made this issue possible. JST is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

Chief Executive Editor
Prof. Dato' Dr. Abu Bakar Salleh
executive_editor.pertanika@upm.edu.my