

Foreword

Welcome to the **Third Issue 2018** of the Journal of Science and Technology (JST)!

Pertanika bids farewell to Dr. Nayandeep Singh Kanwal whose service ended this month. We thank him for his contributions and wish him every success in his future endeavour.

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 and is run on a non-profit basis for the benefit of the world-wide science community.

This issue contains **45 articles**, of which **four** are review articles, **one** is a short communication and **40** are regular research articles. The authors of these articles hail from several countries namely, **Malaysia, Indonesia, Germany, Denmark, Afghanistan, Saudi Arabia, Canada, Italy, India, Iraq** and **Iran**.

The first review article in this issue reports briefly on remotely sensed imagery data application in a mangrove forest (*Zulfa, A. W. and Norizah, K.*), while the second is on a preliminary study on paper-sheet-based epoxy composites designed for repairing work application and their properties (*Muhamad Hellmy Hussin*). The next review article looks at platelet transcriptome-based approaches in the fight against dengue and other diseases (*Suppiah, J., Sakinah, S., Chan, S. Y., Wong, Y. P., Bala, J. A., Lawal, N., Benelli, G., Subbiah, S. K. and Chee, H. Y.*), while the final review article examines forensic body height estimation by measuring unsegmented fingers of Javanese subjects in Indonesia (*Athfijatul Fatati and Myrtati D. Artaria*).

The short communication discusses the effectiveness of the quick coherence technique using the heart rate variability-biofeedback technology on the recovery of heart coherence among university students (*Abdul Qahar Sarwari and Mohammad Nubli Wahab*).

The 40 regular articles cover a wide range of topics. The first article is on the association of FDG-PET (SUVmax) and an inflammatory marker in predicting tumour aggressiveness (*Ahmad Saad, F. F., Abdullah, N. S., Shaharuddin, S. and Nordin, A. J.*). The following articles look at: a comparative analysis of contrast enhancement techniques for medical images (*Randeep Kaur, Meenu Chawla, Navdeep Kaur Khiva and Mohd Dilshad Ansari*); the preparation and thermal properties of cellulose acetate/polystyrene blend nanofibres via the electrospinning technique (*Rosdi, N. H., Mohd Kanafi, N. and Abdul Rahman, N.*); an experimental analysis of condensation in a helical coil tube (*Rashed Ali and Nitin P Gulhane*); a modified wiener filter for restoring landsat images in remote sensing applications (*Kalaivani K and Asnath Vicky Phamila Y*); GPU-based optimisation of pilgrim simulation for *hajj* and *umrah* rituals (*Abdur Rahman Muhammad Abdul Majid, Nor Asilah Wati Abdul Hamid, Amir Rizaan Rahiman and Basim Zafar*); ultrasound-assisted

extraction of natural colourants from the husk of *cocos nucifera* in comparison with agitated-bed extraction (Rodiah, M. H., Nur Asma Fhadhila, Z., Noor Asiah, H. , Aziah, M. Y. and Kawasaki, N.); distinct pH-dependent aggregation of citrate-capped colloidal gold in presence of citrate competitors (Fatemeh Javadi-Zarnaghi, Fahimeh Hosseini and Dorsa Mohammadrezaei); experimental evaluation of jatropha oil methyl ester (JOME) and fish oil methyl ester (FOME) in a compression ignition engine with exhaust gas recirculation (K. Bhaskar and S. Sendilvelan); decomposition of benders for distribution networks with a cross-docking centre (Manpreet Singh, Divya Aggarwal and Vijay Kumar); distance correlation between plaintext and hash data by genetic algorithm (Farjami, Y., Rahbari, D. and Hosseini, E.); simulation of fermentation compounds for bioethanol production using different separating agents (S. M. Anisuzzaman, D. Krishnaiah, A. Bono, F. A. Lahin and Syazryn R. I.); the study of time lag on plant growth under the effect of toxic metal as a mathematical model (Kalra, P. and Kumar, P.); optimisation of the multireservoir operation policy using a teaching-learning-based optimisation algorithm (Jayantilal N. Patel and Pranita N. Balve); determination of the optimal pre-processing technique for spectral data of oil palm leaves with respect to nutrients (Helena Anusia James Jayaselan, Wan Ishak Wan Ismail, Nazmi Mat Nawi and Abdul Rashid Mohamed Shariff); a novel entropy algorithm for state sequence of the Bakis Hidden Markov Model (Jason Chin-Tiong Chan and Hong Choon Ong); a portable and low-cost multi-sensor for real-time remote sensing of water quality in agriculture (Sandeep Bansal and G. Geetha); an adaptive mechanism to optimise routing performance in mobile ad hoc networks (B. Nithya, C. Mala and Abhishek Agrawal); design of the side-sensitive group runs chart with estimated parameters based on expected average run length (You Huay Woon); DSSBD, an intelligent decision-support system for residual life estimation of the PN junction diode (Shivani and Cherry Bhargva); theoretical development of biaxial fabric prestressed composites under tension-tension fatigue loading (Nawras H. Mostafa, Z. N. Ismarrubie, S. M. Sapuan and M. T.H. Sultan); drying characteristics of *curcuma longa* using solar dryer (Fhelix August Soebiantoro, Elieser Tarigan, Lie Hwa, Violita Putri Halim and Lanny Sapei); exploration of tritrophic interaction for enhancing conservation biological control of insect pests in the role of analytical chemistry (Surjani Wonorahardjo, Nurindah, Dwi Adi Sunarto, Sujak and Setya Ayu Aprilia); OPH-LB, an optimal physical host for load balancing in a cloud environment (Sakshi Chhabra and Ashutosh Kumar Singh); an evaluation of network intrusion detection systems through a statistical analysis of the CIDDS-001 dataset using machine-learning techniques (Abhishek Verma and Virender Ranga); protocols-performance investigation using ad hoc WLAN for healthcare applications (Piyush Yadav, Rajeev Agrawal and Komal Kashish); detection of spam using particle swarm optimisation in feature selection (Surender Singh and Ashutosh Kumar Singh); evaluation of the ball-milling process for the production of carbon particles from rice straw waste (Asep Bayu Dani Nandiyanto, Rosi Oktiani, Rena Zaen, Ari Arifin Danuwijaya, Ade Gafar Abdullah and Nuria Haristiani); implementation of a markerless augmented reality method to visualise the philosophy of batik based

on android (*Isma Widiaty, Ivan Yustiawan, Yudi Wibisono, Ade Gafar Abdullah, Cep Ubad Abdullah and Lala Septem Riza*); metaheuristicopt, an R package for optimisation based on meta-heuristics algorithms (*Lala Septem Riza, lip, Eddy Prasetyo Nugroho and Munir*); a natural circulation system for advanced fast reactors with lead-bismut as a coolant (*Ade Gafar Abdullah, Zaki Su'ud and Asep Bayu Dani Nandiyanto*); using the jolly balance spring method to determine the pure water surface tension coefficient (*Duden Saepuzaman, Muhamad Gina Nugraha, Regiana Dewi, Fitri Kafiyani and Fanny Herliyana Dewi*); an analysis of attacks on mail disposition systems secured by digital signatures equipped with AES and RSA algorithms (*Herbert Siregar, Enjun Junaeti and Try Hayatno*); the technical efficiency chemical industry in Indonesia using the stochastic frontier analysis (SFA) approach (*Amir Machmud, Asep Bayu Dani Nandiyanto and Puspo Dewi Dirgantari*); a validation of UML model and OCL expressions using the USE tool (*Arifa Bhutto and Dil Muhammad Akbar Hussain*); a photonic crystal-based micro mechanical sensor in an SOI platform (*Indira Bahaddur, Preetha Sharan and P. C. Srikanth*); an adaptive MOEMS-based micro pressure sensor using photonic crystal (*Johnson, O. V. and Preeta Sharan*); photonic crystal-based micro interferometer biochip (PC-IMRR) for early stage detection of melanoma (*Nandhini, V. L., K. Suresh Babu, Sandip Kumar Roy and Ketan Pandit*); cheat-proof communication through a cluster head (C3H) in a mobile ad hoc network (*Abu Sufian, Anuradha Banerjee and Paramartha Dutta*); and wavelength selectivity using an adaptive shortest path algorithm for optical network (*Piruthiviraj P, Preeta Sharan and Nagaraj Ramrao*).

I anticipate that you will find the evidence presented in this issue to be intriguing, thought-provoking and useful in setting new milestones. 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.

I would also like to express my gratitude to all the contributors namely, the authors, reviewers and editors for their professional contribution towards making this issue feasible.

JST 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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