

Foreword

Welcome to the Second Issue of 2019 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 30 articles; 3 are review articles, 1 case study and the rest are regular articles. The authors of these articles come from different countries namely Algeria, Bangladesh, France, India, Iran, Iraq, Malaysia, Nigeria, Philippines, Thailand, Turkey and United Arab Emirates.

Articles submitted in this issue cover various scopes of Science and Technology including environmental sciences, engineering sciences, information, computer and communication technologies, mathematical sciences, applied sciences and technologies, medical and health sciences, chemical sciences, earth sciences, environmental sciences and material sciences.

Selected from the scope of environmental science is an article entitled “FeNO as a Biomarker for Airway Inflammation Due to Exposure to Air Pollutants among School Children nearby Industrial Areas in Terengganu” by *Anis Syafiqah Kamaruddin, Juliana Jalaludin, Titi Rahmawati Hamedon and Nur Hazirah Hisamuddin*, fellow researchers from Universiti Putra Malaysia, Malaysia. They conducted a cross-sectional comparative study among Malay primary school children in Kemaman, Terengganu and assessed indoor air quality in each primary school and home using indoor air monitoring equipment. Fractional exhaled nitric oxide (FeNO) was measured using an NIOX MINO device. The researchers found a significant difference between concentrations of PM10, PM2.5, NO2, SO2, and VOCs in different classrooms from selected schools and homes of exposed and comparative groups. Statistical analysis revealed that the FeNO level was significantly higher among the exposed group compared to the comparative group. This study suggested that the exposure to industrial air pollutants would increase the risk of getting respiratory inflammation among primary school children living near industrial areas. Details of the article are available on page 589.

Selected from the scope of engineering science is an article entitled “Experimental Study of Tsunami Bore Induced Forces on Vertical Seawall” by *Zaty Aktar Mokhtar, Badronnisa Yusuf and Saiful Bahri Hamzah* from Malaysia; and *Thamer Ahmad Mohammed* from Iraq. The study performed a sequence of laboratory experiments using dam-break waves to simulate the interactions between the tsunami-like bore flow and vertical seawall as well as to measure the bore-induced pressures and to estimate forces exerted on the vertical seawall model. The experimental result revealed that the maximum pressure (approximately 8 kPa) exerted on the vertical seawall was measured at the lowest pressure sensor location. This study used the experimental data to re-examine the relevant empirical formulae found in the literature. The results obtained by this study could be useful for calibrating mathematical and numerical models as well as for future research concerning the design of tsunami barriers. Details of the article is available on page 673.

Selected from the scope of information, computer and communication technologies is an article entitled “Structural and Statistical Similarity Measure based Approach for Effective Eye Blink Recognition” by *Kapil Juneja* and *Chhavi Rana*, fellow researchers from Maharshi Dayanand University, India. The study presented a three-stage model to detect the eye blinks accurately. The proposed model was applied on real time, web-collected and the NRC-IIT dataset videos which were associated to the indoor and outdoor environments. The study analysed news reading and other complex video sequences and found out that the proposed model had reduced the possible generated errors and provided the accurate detection of eye blinks. Details of the article is available on page 779.

Selected from the scope of material science is an article entitled “Fabrication of Scaffold in Tissue Engineering using Selective Laser Sintering Process” by *Gajanan Nanasaheb Thokal* and *Chandrakant Ramesh Patil* from India. This article described an experimental investigation of bone scaffold to measure the porosity using gas porosimeter and suggested an alternative to bone scaffold. The researchers made a prototype using additive manufacturing of selective laser sintering technique, using synthetic polymer PA12. The behaviour of actual bone and prototype had been observed under compressive load of fixed interval loading condition. Mechanical properties of polymer had been evolved and compared with actual bone. The results revealed that the prototype showed more deformation before ultimate load and suggested further experiment to get required strength in the polymer, as an alternative to bone scaffold. Details of the article is available on page 1013.

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 and editors, 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.

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