

EDITORIAL: EMPOWERING INDUSTRY AND TRANSFORMING SOCIETY TOWARDS SUSTAINABLE DEVELOPMENT

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Introduction

This special issue presents the selected peer-reviewed full-text papers from the 13th International UNIMAS Engineering Conference 2020 (EnCon 2020), which was successfully organised through an online platform on October 27-28, 2020 by the Faculty of Engineering of Universiti Malaysia Sarawak (UNIMAS), Malaysia, along with various prominent co-organizers, the Institution of Engineers, Malaysia (IEM), Swinburne University of Technology, Malaysia, SRM Institute of Science and Technology, India, the Institute of Electrical and Electronics Engineers (IEEE), Malaysia and Universiti Teknologi PETRONAS (UTP), Malaysia.

EnCon 2020 being the flagship Engineering Conference of the Faculty of Engineering in UNIMAS brought more than 300 academics locally and internationally including those from the engineering industry in the effort of shining light on the works of engineering academicians in contributing beneficially to the industry and society.

The special issue aims to focus on the present developments in research, technology development and sustainable engineering practice in the areas of urban stormwater management, environmental engineering and bio-waste processing, sustainable construction material and technology and sustainable construction management practices. The first highlight of the issue is the works on urban stormwater management. The papers include the methods used for urban stormwater detention systems including a newly developed green pavement technology. Two papers discuss the home-based detention system and urban

stormwater management potential using green and permeable pavement technology with subsurface micro-detention storage (StormPav) for the environmental impact assessment. A paper emphasising the importance and development in the knowledge area of Site-Specific Rainfall Temporal Pattern (RTP) for sustainable development in Sarawak is also presented here.

The second focus of the special issue is devoted to the technological development in environmental engineering including bio-waste processing. Three papers are dedicated to the biochar application in water supply systems in rural areas, wood and maize cob-derived biochar application in the agricultural sector and quantification of municipal solid waste.

Another attention of the special issue includes the sustainable construction materials and technology development where five papers are available. These papers cover numerous research efforts in the development and extensive studies of fibre-reinforced mortar, evaporation cooling in building using porous material, Durio Zibethinus skin fibre-reinforced polyethylene composite, soil stabilisation using Geocrete® Technology and review of design equations in masonry building retrofitting.

Last but not the least, this special issue also highlights on the research and engineering development in the area of sustainable construction management practice with four papers emphasising on risk impact and occurrences quantification for infrastructure projects, knowledge-based system of low volume rural roads, adaptive energy management for hybrid vehicles and reduction of carbon footprint towards sustainable development of the nation.

The Editorial Team would like to express our heartfelt gratitude to all EnCon 2020 conference committee members, co-organizers, sponsors and most important of all, all presenters and participants who had made this conference a successful event amidst an unprecedented period of pandemic and movement control in our history. The Guest Editors would like to extend their sincerest thank you to all the authors and reviewers. The Guest Editors are also immensely grateful to Professor Dr. Mhd Ikhwanuddin

Abdullah (Editor-in-Chief), Professor Ts. Dr. Lam Su Shiung (Deputy Editor-in-Chief) and the JSSM production team for their kindness in constantly providing their assistance and advice in making this special issue a reality. Finally, we hope the content of this special issue will benefit all academicians, researchers and practitioners from diverse engineering and technological fields for further development in their continually evolving venture and profession.