# *SPECIAL ISSUE EDITORIAL* INTERNATIONAL CONFERENCE ON SCIENCE AND TECHNOLOGY IN THE TROPIC (ICST2017): THE EMERGENCE OF SCIENCE FOR HUMAN PROSPERITY AND HEALTH

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This special issue features a collection of research articles that cover a wide range of fields of study, including medical, food, agricultural, and environmental sciences, with emphasis on studies pertinent to the various aspects of life in the Indonesian islands, especially the Lombok Island, at the West Nusa Tenggara Regency. In particular, the use of local resources in improving the quality of life of the Indonesian community is a recurring theme of this special issue. The article "Utilisation of macroalga from West Nusa Tenggara towards improved human health and prosperity" provides an update on the progress attained by a group of researchers who focused on developing useful products such as fertilisers, UV protectant, and anticancer agent from the rich seaweed resources in the region. Apart from that, the use of carrageenan, a polysaccharide extracted from seaweed, as a bread improver was investigated in one of the studies, while another group of researchers explored the use of gelatine produced from waste of the fishing industry as the stabiliser of pineapple juice. The effect of an empirical dosage of seeds of a local plant used in treating diabetes was scientifically studied on alloxan-induced diabetic rats.

Much emphasis was given on the research and development in the agricultural sector. The effect of seaweed extracts as fertiliser in improving the growth and yield of selected agricultural crops was investigated and discussed in two research articles. Some other studies investigated the effectiveness of locally developed organic fertilisers in improving the growth and yield of selected crops. The potential of using apical stem cuttings to enhance the production of high-quality potato seed tubers in support of the Indonesian government's policy to improve the national potato production was explored, with the spacing and fertilisation requirement for optimal production of field-grown seed tubers also investigated and highlighted. A research group from Japan assessed the level of various trace elements that induced phytotoxicity to the root and hypocotyl growth of *Arabidopsis thaliana*. This is relevant in the production of element-resistant strains for further study of the effect of those elements on plant physiology.

Agarwood refers to the fragrant resinous portion produced in heart wood or inner wood of some tree species belonging to the Thymelaeaceae in response to biotic and abiotic stress. This resinous wood is a valuable commodity of Indonesia. To meet the heightened demand for this commodity, various studies that capitalised on biotechnology to aid in the production of agarwood had been initiated. Two research articles in this special issue are dedicated to this aspect of study. One of them focused on understanding the genetic diversity of *Fusarium solani*, a biological agent responsible for inducing the production of agarwood in *Gyrinops versteegii*; the other looked into the potential of using callus culture generated from leaf explant of *Aquilaria filaria* as the bioreactor to produce the fragrant compounds identified in agarwood.

Two research articles in this special issue concern about the medical advances in the region. The correlation of cancer stage with the expression of two common biomarkers, LMP-1 and BCL-2, in the patients with

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undifferentiated nasopharyngeal cancer in the Lombok Island was investigated. This study was conducted in light of the relatively higher susceptibility of the population in Lombok to the Epstein-Barr virus infection which is highly associated with the undifferentiated nasopharyngeal cancer, owing to the poor environmental conditions and hygiene status in the region. Another study explored the potential of microRNA as a candidate of biomarker and targeted therapy for identifying and managing non-Hodgkin B cell lymphoma patients who are resistant to treatment with doxorubicin.

Two other research articles in this special issue focused on the marine and estuarine ecosystems. Such emphasis is in line with the fact that a large number of the islanders on Lombok rely on fisheries as the means of livelihood. The annual swarming and fishing of sea worms is an important event to the Sasakan community in Lombok. Despite being deeply entangled with the folklores and cultures, the annual swarming of sea worms in Lombok to the sea surface as part of the reproduction mechanism is an important economic asset that serves as a tourism attraction nowadays. A study was set out to unveil the periodicity and exogenous factors associated with the swarming time of the sea worms. On the other hand, considering the ecological and economical importance of mangrove area, replanting activities had been conducted to rehabilitate the mangrove areas that were once converted into aquaculture ponds or salt flats. In an effort to assess the success of previous mangrove replanting programmes, a study was dedicated to evaluate the species diversity in several previously degraded mangrove areas.

These contributions addressed not only the imminent and prospective issues pertaining to the various aspects of life of the community on the Lombok Island, the findings are likely applicable to other neighbouring regions and can serve as inspiration to resolve some other relevant issues for the betterment of the environment and humanity while advancing the sciences.