

## 4Bs Conference: A brief commentary on the 3<sup>rd</sup> Regional Conference on Biosensors, Biodiagnostics, Biochips and Biotechnology 2016

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*Malaysian Journal of Microbiology* is pleased to devote this entire Special Issue to selected papers from the 3<sup>rd</sup> Regional Conference on Biosensors, Biodiagnostics, Biochips and Biotechnology 2016 (3<sup>rd</sup>RC4Bs-2016) that was held in AIMST University, Kedah, Malaysia.

The conference was sponsored by the AIMST University.

S. J. Bhore, PhD, Senior Associate Professor of the Biotechnology served as Chairman of the Organizing Committee of the Conference.

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plenary talks, 38 technical papers and about 50 posters' presentation. We approached Malaysian Journal of Microbiology (MJM) to produce a Special Issue to feature papers from participants of the 3<sup>rd</sup>RC4Bs-2016 including papers from our young and budding scientists, including the postgraduate students.

Roy *et al.* conducted a study to develop an innovative method for detecting *Salmonella* species at picogram levels by use of magnetic bead aggregation through loop-mediated isothermal amplification. They claim that they have developed a new innovative method for detection of *Salmonella*. This developed new method does not require any heavy or expensive instruments (Roy *et al.*, 2016); hence, this method has several potential applications in bio-diagnostics and various sectors of biotechnology.

Mycotoxin, Ochratoxin A (OTA) produced by various *Aspergillus* and *Penicillium* strains is one of the challenges in the food industry. Pinijsuwan *et al.* reported their laboratory-scale research findings on development of a highly sensitive and rapid method for OTA detection (Pinijsuwan *et al.*, 2016). It appears that developed method is rapid, sensitive and specific to OTA detection. This method which utilizes silica particle (Au-ball) based peptidesensors does have potential applications for the detection of OTA contamination in coffee and or grains.

Christapher *et al.* conducted a laboratory scale study to examine the *Polygonum minus* L.

### EDITORIAL

The purpose of the 3<sup>rd</sup> Regional Conference on Biosensors, Biodiagnostics, Biochips and Biotechnology 2016 (3<sup>rd</sup>RC4Bs-2016) was to provide a forum for industry representatives, scientists and students to share knowledge, challenges, recent advances and future perspectives in multidisciplinary areas of biosensors, biodiagnostics, biochips and biotechnology. In response to call for papers, we received more than 110 submissions from local and international participants. The scientific programme of the conference was rich and wide-ranging with 2 keynote talks, 14 invited

leaves extract (*PmLE*) for its hepatoprotective activity using carbon tetrachloride (CCl<sub>4</sub>) and paracetamol induced hepatotoxicity in Sprague Dawley rats. Their research findings suggest that *PmLE* possesses a significant hepatoprotective activity. They suggest the potential of using *P. minus* leaves in the food to counteract liver damage (Christopher *et al.* 2016).

Aptamers are *in vitro* selected single-stranded DNA and or RNA molecules which can bind specifically to the targeted nucleic and non-nucleic acid molecules. Aptamers have several applications in biosensors, biodiagnostics and various sectors of biotechnology. Subash *et al.* reviewed various roles of aptasensors in detecting pathogenic viruses (Subash *et al.*, 2016).

Pyar and Peh evaluated the effect of different cryoprotective agents on the survival of freeze-dried *Lactobacillus rhamnosus*. Their research findings suggest that modified De-Man Rogosa Sharpe (MRS) medium with skim milk is useful for the optimal growth and yield of probiotic lactobacilli (Pyar and Peh, 2016).

Parasuraman *et al.* conducted a laboratory-scale study to examine the antimicrobial, antihistaminic and mast cell stabilizing activities of *Solanum trilobatum* Linn leaves extract. They found that *S. trilobatum* leaves possess significant antimicrobial and antihistaminic activity (Parasuraman *et al.* 2016).

The extensive usage of plastics worldwide has become a source of pollution and its disposal is a major challenge. Hence, finding alternative plastic material for the environmental protection has become a matter of urgency. Polyhydroxyalkanoate (PHA) synthesized by microbes is a biodegradable polymer which could be used to make biodegradable plastic. Heng *et al.* reviewed various issues associated with biosynthesis and recovery of PHA (Heng *et al.*, 2016). They highlighted that technical hurdles need to be addressed for the commercialization of PHA based biodegradable plastics.

*Klebsiella pneumoniae* is a common cause of various infections in humans; hence, a proper diagnosis of infections is very important. By isolating two hundred strains of *Klebsiella pneumoniae* from different clinical samples, Rasheeda *et al.* evaluated strain's multidrug

resistance and characterized their genotypes (Rasheeda *et al.*, 2016).

Globally, foot-and-mouth disease is responsible for the loss of 6.5 - 21 billion USD per annum. Towhid *et al.* reviewed the current scenario of foot-and-mouth disease in Asia and Bangladesh (Towhid *et al.* 2016). They claim that the transboundary movement of foot-and-mouth disease virus, inappropriate vaccination and inadequate awareness are the main reasons for foot-and-mouth disease spreading in most of the Asian countries.

Imran *et al.* evaluated the comparative immunologic behavior of lipopolysaccharide and outer membrane proteins. Their findings indicate that lipopolysaccharides in combination with outer membrane proteins synergistically boost the humoral immune response in vaccinated animals (Imran *et al.* 2016).

It is truthfully our pleasure to present selected 10 papers from 3<sup>rd</sup>RC4Bs-2016 in this Special Issue of MJM. The papers published in this Special Issue provide new insights into some (if not all) current topics in biosensors, biodiagnostics, biochips and biotechnology research which are relevant to the industry and public health.

In addition to this Special Issue of MJM, we have also published a book and eBook [ISBN: 978-983-43522-8-8, eISBN: 978-983-43522-7-1] which made 9 full-papers and all abstracts of the conference available to the scientific community (Bhore, 2016).

On behalf of the AIMST University, we had the honor of being host of the 3<sup>rd</sup>RC4Bs-2016. We want to thank MJM for giving us an opportunity to serve as guest editors.

By bearing in mind the participation of about 235 participants from 13 countries and the overall success of the conference; host of the next meeting should consider translation of this 'Regional Conference on Biosensors, Biodiagnostics, Biochips and Biotechnology' into an 'International Conference on Biosensors, Biodiagnostics, Biochips and Biotechnology'.

## ACKNOWLEDGMENTS

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## Conflicts of interest

The editors declare no conflict of interest.

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