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Introduction

In this modern era, information is the key to knowledge. For the new line-ups of Research Committee in the School of Biosciences, we are fully aware that it is important for us to get in touch with you so that we could find ways to let you know about the happenings in research at the School of Biosciences.

The purpose of this research bulletin therefore aims to keep you up to date of what's going on in research in our school. We hope to publish the research bulletin quarterly per annum. In order for the research bulletin to run successfully, we need your contributions in areas such as activities, achievements or any articles related to research.

In this issue of bulletin, we bring you an excerpt of research achievements that have been accomplished in 2016 in the school of Biosciences and a series of publications in the first quarter (ie Jan to March) of 2017.

Happy readings and hope that the research achievements reported in this issue will provide you with inspirations in your research endeavors. More to come.

Yours sincerely,

Chiew Foan

Chin Chiew Foan
Director of Research Committee in School of Biosciences
On behalf of SoB research committee



Research Activities and Achievements in 2016

- 2 March 2016: Prof Sandy Loh was invited to contribute to 'Stronger Together' WINSET research workshop, with participants from across Malaysia, to explore issues of gender balance for STEMM academics in Malaysian Higher Education Institutions.
- 9-11 March 2016: Chee Jen Yang, PhD student under Dr Chiew Foan, won first prize in the Biotechnology category at the International Conference for Molecular Biology and Biotechnology, Kuala Lumpur.
- 14 April 2016: Pang Ee Leen, PhD student under Prof Sandy Loh's supervision won the University of Nottingham Postgraduate Prize Awards 2016.
- 10 May 2016: School of Biosciences hosted a public seminar on 'Rationalising Ganoderma Disease of Oil Palms and Climate Change' by Dr Russell Paterson (Ganoderma Disease expert from the University of Minho, Braga, Portugal).
- 12 May 2016: Dr Chin Chiew Foan was invited to be one of the judges for The International Invention, Innovation & Technology Exhibition (ITEX) in Kuala Lumpur Malaysia.
- 14 May 2016 : Wong Xin Yi (BSc Biotechnology student) won the Best Oral Presentation Award at the Intervarsity Biochemistry Seminar (IBS); an annual event organised by Malaysian Society of Biochemistry and Molecular Biology (MSBMB).
- 6 June 2016: Dr Chin Chiew Foan and UNMC colleagues visited Monash to discuss research collaboration link between Faculty of Science in UNMC and Monash Malaysia.
- July 2016: Dr Ngai Siew Ching (Eunice) – secured FRGS grant (RM159,400) to carry out research on 'Characterization of the cellular and molecular profiles of CDH1-re-expressed breast adenocarcinoma cells treated with Zebularine and Trichostatin A followed by Tumor Necrosis Factor-related Apoptosis-inducing Ligand (TRAIL).
- 13 August 2016: Prof Sandy Loh was invited as Plenary Speaker by UTAR, Perak Campus Kampar to present a research-based lecture in The UTAR Intervarsity Scientific Symposium.
- 19-20 August 2016: Dr Christina Supramaniam was invited to give a keynote talk at the 2nd International Conference on Plant Genetics and Genomics (AgriGenomics India 2016).
- 24 August 2016: Dr Yin Sze Lim co-organised Postgraduate Conference and Annual Symposium with Malaysian Society for Microbiology at UKM.
- September 2016: Dr Chin Chiew Foan was elected to be the President of Malaysian Proteomics Society. She is also the chairperson of the organising committee for International Proteomics Conference in conjunction with 4th AOAPO conference to be held in Kuala Lumpur, Malaysia from 15 to 17 August 2017.
- October 2016: Dr Christina Supramaniam and colleagues secured an industrial grant (RM580,120) to carry out research on the Efficacy of Living Organic Fertilizer (LOF) and Fortified Living Organic Fertilizer (FLOF) amended with mix cultures of Trichoderma spp. to Control Basal Stem Rot Diseases in Oil Palm. This project is part of a research collaboration between Centre of Sustainable Palm Oil Research (CESPOR), UNMC and Green Plant Organic Fertiliser Sdn Bhd.
- 20-25 November 2016: Prof Asgar Ali acted as a member of international Scientific Committee of IV International Symposium On Guava and Other Myrtaceae, Cairn Convention Centre, Australia organized by ISHS.

- 21-23 November 2016: Ms. Sonia Wong How Ming (PhD student) and Mr. Kong Wei Yang (Bachelor of Science (Hons) Biotechnology graduate) under Dr. Eunice Ngai supervision won prizes at the Monash Science Symposium 2016. Sonia won the 1st place prize “Research in a Flash” category for her presentation “Is it the TRAIL to breast cancer cure?” while Wei Yang won the best oral presentation in “Cell Biology and Biochemistry” category for his presentation “The effects of epigenetic drugs Zebularine and Scriptaid on breast cancer cells”.
- December 2016: Prof Asgar Ali co-edited a book entitled “Postharvest Management of Horticultural Crops”.
- December 2016: Tham Shiau Ying (PhD student) together with Prof Sandy Loh secured a TORAY grant amounting RM20,000 for a project entitled: "Combinatorial Application of Tocotrienols and Conventional Chemotherapeutic Drugs as a Chemosensitization Strategy in Colorectal Cancer".

Those were the days





January – March 2017...

Publications in School of Biosciences:

1. QN Wong, AS Tanzi, WK Ho, S Malla, M Blythe, A Karunaratne, F Massawe, S Mayes (2017). Development of Gene-Based SSR Markers in Winged Bean (*Psophocarpus tetragonolobus* (L.) DC.) for Diversity Assessment. *Genes* 8 (3), 100. 100; doi:10.3390/genes8030100.
 2. HH Chai, WK Ho, N Graham, S May, F Massawe, S Mayes (2017). A cross-species gene expression marker-based genetic map and QTL analysis in bambara groundnut. *Genes* 8 (2), 84. doi:10.3390/genes8020084.
 3. WK Ho, HH Chai, P Kendabie, NS Ahmad, J Jani, F Massawe, A Kilian, S Mayes (2017). Integrating genetic maps in bambara groundnut [*Vigna subterranea* (L) Verdc.] and their syntenic relationships among closely related legumes. *BMC genomics* 18 (1), 192. DOI: 10.1186/s12864-016-3393-8
 4. HS Tan, RP Jacoby, M Ong-Abdullah, NL Taylor, S Liddell, WC Wong and CF Chin (2017) Proteomic profiling of mature leaves from oil palm (*Elaeis guineensis* Jacq.). *Electrophoresis* 2017, 00, 1–7
 5. WK Yeoh, A Ali (2017) Ultrasound treatment on phenolic metabolism and antioxidant capacity of fresh-cut pineapple during cold storage. *Food Chemistry* 216 : 247–253
 6. KW Tan, BA Graf, SR Mitra and ID Stephen (2017) Impact of fresh fruit smoothie consumption on apparent health of Asian faces. *Evolution and Human Behavior* (In Press)
 7. Le, C. F., Fang, C. M., & Sekaran, S. D. (2017). Intracellular Targeting Mechanisms by Antimicrobial Peptides. *Antimicrob Agents Chemother*, 61(4). doi: 10.1128/AAC.02340-16
 8. Le, C. F., Kailaivasan, T. H., Chow, S. C., Abdullah, Z., Ling, S. K., & Fang, C. M. (2017). Phytosterols isolated from *Clinacanthus nutans* induce immunosuppressive activity in murine cells. *Int Immunopharmacol*, 44, 203-210. doi: 10.1016/j.intimp.2017.01.013
 9. Pang, E.L., Loh, H.-S. (2017). Towards development of a universal dengue vaccine – how close are we? *Asian Pacific Journal of Tropical Medicine*: In Press. DOI: 10.1016/j.apjtm.2017.03.003. [Refer to the online version: <http://www.sciencedirect.com/science/article/pii/S1995764516304308>]
 10. Low, S.S., Loh, H.-S., Boey, J.S., Khiew, P.S., Chiu, W.S., Tan, M.T.T. (2017). Sensitivity enhancement of graphene/zinc oxide nanocomposite-based electrochemical impedance genosensor for single stranded RNA detection. *Biosensors and Bioelectronics* 94: 365-373. DOI: 10.1016/j.bios.2017.02.038.
 11. Lim, S.S., Chai, C.Y., Loh, H.-S. (2017). In vitro evaluation of osteoblast adhesion, proliferation and differentiation on chitosan-TiO₂ nanotubes scaffolds with Ca²⁺ ions. *Materials Science and Engineering: C* 76: 144-152. DOI: 10.1016/j.msec.2017.03.075.
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12. Pua, T.-L., Chan, X.Y., Loh, H.-S., Omar, A.R., Yusibov, V., Musiyshuk, K., Hall, A.C., Coffin, M.V., Shoji, Y., Chichester, J.A., Bi, H., Streatfield, S.J. (2017). Purification and immunogenicity of hemagglutinin from highly pathogenic avian influenza virus H5N1 expressed in *Nicotiana benthamiana*, *Human Vaccines & Immunotherapeutics* 13(2): 1-8. DOI: 10.1080/21645515.2017.1264783

13. Abubakar, I.B., Lim, K.-H., Kam, T.-S., Loh, H.-S. (2017). Enhancement of apoptotic activities on brain cancer cells via the combination of α -tocotrienol and jerantinine A. *Phytomedicine*: In Press. DOI: 10.1016/j.phymed.2017.03.004. [Refer to the online version: <http://www.sciencedirect.com/science/article/pii/S0944711317300454>].



A Lab:

A lab is a **nurturing** environment that aims to **maximize the potential** of students as scientists and as human beings