

Organiser



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ABSTRACT BOOK

The Malaysian Society for Microbiology
Postgraduate Symposium 2022

MSMPS²⁰²²

Microbes & Planetary Health:
A Sustainable Affair

10 - 11th August 2022 | Virtual Symposium



Microbes & Planetary Health: A Sustainable Affair

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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FOREWORD

President, Malaysian Society for Microbiology

Assalamualaikum w.b.t and Greetings to all,

On behalf of the society, it is my pleasure to welcome all of you to the MSM Postgraduate Symposium 2022 (MSMPS2022). The society has always strived to provide avenues for nurturing an inclusive and resilient science landscape in the country, and the MSMPS is a designated platform for dissemination of knowledge aimed at promoting science amongst our postgraduates and the younger scientific fraternity.



This year, the symposia operates under the theme “Microbes and Planetary Health: A Sustainable Affair”. The role of microbial communities, or microbiomes towards balancing a myriad of ecosystems have recently taken centre stage in many scientific discourses. Thriving microbiomes are crucial for sustainable environmental health and flourishing ecosystems. Research has demonstrated that crop yield and growth are transcendent of healthy soil microbiomes; water microbiome systems become harbors of a vast range of marine species and corals; and a thriving gut microbiota leads to robust immune systems and overall good health in animals. The role of microbes and the science of microbiology remains classically relevant, and its importance to planetary health is more relevant against the dynamic backdrop of the world we live in today. Through MSMPS2022, we hope this message will be reflected in the many wonderful presentations by the future of science – our postgraduates.

This year the symposium is organized once again via online conventions, an initiative the MSM hopes would be able to provide opportunities for interaction that bridge our postgraduate researchers together within conducive grounds to communicate their work to colleagues, academics and interested parties from various universities nationwide. This year, the symposium provides ample microbiological discourse through presentations in the fields of General Microbiology, Food Microbiology, Environmental Microbiology, Industrial Microbiology, Medical Microbiology, Agricultural Microbiology, and Microbial Omics.

I would like to record my utmost appreciation to the Kuliyyah of Science, International Islamic University (UIA) as our gracious Co-Organizers for MSMPS2022. The organization of this symposia is a consequent reflection of the wonderful collegial and collaborative efforts from the committee members and showcases the strength as well as focus of the research being carried out by our postgraduates nationally. I would also like to extend my heartfelt acknowledgements to the Guests of Honor, Keynote and Plenary speakers, sponsors, and seminar participants for making this event a success.

Thank you once again for your involvement in the MSMPS2022 and we look forward to your active participation and support in future events under the banner of the Malaysian Society for Microbiology.

I wish you all a satisfying and fulfilling scientific interaction.

Mas Jaffri Masarudin

FOREWORD

Organizing Chair, MSMPS2022

Assalamualaikum warahmatullahi wabarakatuh and Greetings!

On behalf of the committee, I would like to extend a warm welcome to all participants to the Malaysian Society for Microbiology Postgraduate Symposium 2022 (MSMPS2022). It is our hope that this two-days virtual symposium will serve as an avenue for aspiring research students to exchange knowledge in the field of microbiology as well as opportunity to make new acquaintances.



The COVID-19 pandemic has evidently affected the life of many of us. The challenges also inspire us, to adapt and innovate while doing microbiology research. During pandemic too, we realised the vital relationship of microorganism with different dimensions of sustainability. The effort to create an environmentally sustainable future might be at stake if we underestimate the importance of understanding microorganisms and their significant role in balancing the earth biosphere. Wherever there is life there are microbes! Therefore, the theme for our symposium this year is, “Microbes and Planetary Health: A Sustainable Affair”.

I am honoured that International Islamic University Malaysia has been invited by Malaysian Society for Microbiology to co-organise MSMPS this year. I would like to express my sincere gratitude and appreciation to the Kulliyyah of Science, Kulliyyah of Allied Health Sciences and Kulliyyah of Dentistry, International Islamic University Malaysia (Kuantan Campus) for the support in organising MSMPS2022. The organising committee has continuously shown their dedicated commitment and enormous efforts to ensure that the symposium will be a success.

My utmost gratitude also to our guests of honour, keynote speaker, plenary speakers, sponsors and all participants of the MSMPS2022 for their contributions and immense support.

Thank you for joining us, and I wish you a very pleasant and rewarding 2-days interactive virtual meet!

Assoc. Prof. Ts. Dr. Suhaila Mohd Omar

Organizing Committee

Malaysian Society for Microbiology Postgraduate Symposium 2022

(MSMPS2022)



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Programme MSMPS2022

10-11 August 2022

International Islamic University Malaysia
(ZOOM)

DATE	10 August 2022
TIME	Agenda
8.30 – 9.00	Log into ZOOM https://iium.zoom.us/j/94444842841?pwd=LzVpMVhucXdDMVJETUhBNDZqYVN3dz09
9.00 – 9.05	Doa recitation by Br Mohamad Azimi Shaharudin and Negaraku anthem
9.05 – 9.15	OPENING CEREMONY: Welcome speech by MSM President, Assoc. Prof. Dr. Mas Jaffri Masarudin MC: Dr. Widya Abdul Wahab
9.15 – 9.30	OFFICIATING CEREMONY: Officiating speech by Prof. Dr. Azmi Md Noor, Campus Director, International Islamic University Malaysia, Kuantan.
9.30 – 10.30	KEYNOTE: Prof. Emerita Datuk Dr. Asma Ismail <i>Impact of microbes and planetary health in transforming the research landscape post COVID era</i>
10.30 – 10.35	Group photo on ZOOM
10.35 – 10.45	BREAK
	ORAL PRESENTATION SESSION I Chairperson: Dr. Mohamad Wafiuddin Ismail
10.45 – 11.00	ORAL01 Isolation of fungal endophytes on different media from different leaf stages. Nur A'Fina Ahmad Mokhtar, Universiti Sains Malaysia
11.00 – 11.15	ORAL02 Antimicrobial activities of culturable fungal endophytes from <i>Cymbidium</i> and <i>Dendrobium</i> orchids. Chua Ru Wei, Monash University Malaysia
11.15 – 11.30	ORAL03 Microbial community and functional characteristic of leachate from Jeram and Jabor landfill using metagenomics approach. Siti Marhamah Drahaman, International Islamic University Malaysia
11.30 – 11.45	ORAL04 Community structure of phenol-degrading bacteria enriched from palm oil mill effluent. Izzati Sabri, Universiti Putra Malaysia

11.45 – 12.00	ORAL05 Enzybiotic from <i>Pseudomonas otitidis</i> phage isolated from infected tilapia as potential antimicrobials. Tee An Nie, Universiti Putra Malaysia
12.35 – 2.00	LUNCH BREAK
	ORAL PRESENTATION SESSION II Chairperson: Dr Md Hoirul Azri Ponari
2.00 – 2.15	ORAL06 The expression of virulence genes in Group B <i>Streptococcus</i> isolated from symptomatic pregnant women with term and preterm delivery. Ayesha Bahez, International Islamic University Malaysia
2.15 – 2.30	ORAL07 Potential Effects of bacteriocin against cariogenic oral pathogens. Malathi Ganeson, Universiti Kebangsaan Malaysia
2.30 – 2.45	ORAL08 Dynamic of mixed genotype HCV infection in plasma and peripheral blood mononuclear cells of chronic Hepatitis C hemodialysis patients. Siti Nurul Fazlin Abdul Rahman, International Islamic University Malaysia
2.45 – 3.00	ORAL09 Diversity of acetyltransferase-type toxin-antitoxin loci in <i>Klebsiella pneumoniae</i> Ying-Xian Goh, Shanghai Jiao Tong University
3.00 – 3.15	ORAL10 <i>Streptococcus gallolyticus</i> infection: a neglected marker for colorectal cancer? Che Muhammad Khairul Hisyam Ismail, International Islamic University Malaysia
3.15 – 3.30	ORAL11 Antibacterial evaluation of dimeric sesquiterpene compound from basidiomycetes strain FRIM550 in vivo in a MRSA skin infection mouse model. Vimalah Vallavan, Universiti Kebangsaan Malaysia
3.30 – 3.45	ORAL12 Thermostability improvement of <i>Glomerella cingulata</i> cutinase via iterative site-saturation mutagenesis (ISM) on <i>cut1</i> gene Wan Norhidayah Wan Hanapi, Universiti Kebangsaan Malaysia
3.45 – 3.55	BREAK
	E-POSTER SESSION 1 Chairperson: Assoc. Prof. Dr. Maizatul Akma Ibrahim
3.55 – 4.00	POS01 Antibiotic susceptibility profiles of clinical isolates of <i>Klebsiella</i> spp. from Hospital Pengajar Universiti Putra Malaysia (HPUPM) Vakgesri Muniandy, Universiti Putra Malaysia
4.00 – 4.05	POS02 Epidemiology of extrapulmonary tuberculosis in a tertiary teaching hospital from year 2016-2021: A retrospective study

	Liow Yii Ling, Universiti Malaya
4.05 – 4.10	POS03 Distribution of staphylococcal enterotoxins among clinical isolates of methicillin-susceptible <i>Staphylococcus aureus</i> (MSSA) from Terengganu, Malaysia Ainal Mardziah Che Hamzah, Universiti Sultan Zainal Abidin
4.10 – 4.15	POS04 Agarose gel electrophoresis as a classical method to confirm recombinant vector sizes: Towards an amplification of ABA392 Haemorrhagic septicaemia (HS) vaccines B:2 Nur Nazirah Md Nasir, Universiti Malaya
4.15 – 4.20	POS05 The antibiotic and biocide susceptibility profile of <i>Acinetobacter baumannii</i> clinical isolates from Terengganu – Nurul Saidah Din, Universiti Sultan Zainal Abidin
4.20 – 4.25	POS06 Vaccines as Sustainable Approach to Infectious Diseases: EPS-MH Adjuvanted Vaccine Against Mannheimiosis Ghaith Hussein Mansour, Universiti Malaysia Terengganu
	END OF DAY 1
TIME	11 August 2022
8.30 – 9.00	Log into ZOOM https://iium.zoom.us/j/94444842841?pwd=LzVpMVhucXdDMVJETUhBNDZqYVN3dz09
9.00 – 9.40	Plenary 1: Assoc. Prof Dr Lee Choon Weng (UM) <i>Environmental change and microbes</i> Q & A (10 minutes) MC: Dr. Widya Abdul Wahab
9.40 – 10.40	Forum <i>Postgraduate Challenge and Motivation: A Sharing of Experience</i> Moderator: Assoc. Prof. Ts. Dr. Mohd Hafiz Arzmi
10.40 – 10.50	BREAK
	POSTER SESSION I Chairperson: Dr. Mohd. Faez Sharif
10.50 – 10.55	POS07 In silico analysis and molecular docking study of Nipah Virus V protein against STATs family protein Chong Chee Ning, Universiti Malaya
10.55 – 11.00	POS08 Genome analysis of clinical <i>Acinetobacter soli</i> isolates from Terengganu Farahiyah binti Mohd Rani, Universiti Sultan Zainal Abidin
11.00 – 11.05	POS09 Effect of domain manipulation in the Staphylococcal Phage 88 endolysin Melvina Krishnan, Universiti Putra Malaysia
11.05 – 11.10	POS10 Air-liquid biofilm formation: A potential virulence factor in

	clinical carbapenem-resistant <i>Acinetobacter baumannii</i>. Ng Heng Kang, Universiti Malaya
11.10 – 11.15	POS11 Antimicrobial activity produce from <i>Paenibacillus polymyxa</i> KP10 against Methicillin Resistant <i>Staphylococcus aureus</i>. Farah Syahrain Roslan, Universiti Putra Malaysia
11.15 – 11.20	POS12 Extraction of <i>Senna alata</i> (L.) roxb leaves using soxhlet, maceration and subcritical fluid method and antibacterial activities against <i>Staphylococcus aureus</i> and <i>Staphylococcus epidermidis</i>. Nadirah Abd Rahim, International Islamic University Malaysia
11.20 – 11.25	POS13 In vitro wound healing activity of Sidr and Manuka honey on skin dermal fibroblast cells. Asma Mohammed Al-Sayaghi, University of Cyberjaya
12.00 – 2.00	LUNCH BREAK
2.00 – 2.40	Plenary 2: Prof Dr Evelyn Doyle (UCD, Ireland) <i>Using 'omics' to shed light on the role of microorganisms in the environment</i> Q & A (10 minutes) MC: Dr. Mardiana Mohd Ashaari
1440 – 1450	BREAK
	POSTER SESSION II Chairperson: Dr. Mardiana Mohd Ashaari
2.50 – 2.55	POS14 Characterization of Indazoles and Thiazoles as anti-amoebic agents. Thevashree Rajanderan, Sunway University
2.55 – 3.00	POS15 Actinomycetes from bris soil: Investigation of potential candidate as new drug leads. Amirah Ahmad, Universiti Pendidikan Sultan Idris
3.00 – 3.05	POS16 Isolation and characterization of beneficial endophytic bacteria from <i>Oryza Sativa</i> cultivated in acid sulfate soil Nor Adilah A.Rani, International Islamic University Malaysia
3.05 – 3.10	POS17 Microalgae from Antarctic Soil. Nor Syafawati Mohamad Pauzi, International Islamic University Malaysia
3.10 – 3.15	POS18 Characterization of heavy metal tolerance Rhizobacteria and its potential in bioremediation. Emyrah Ilya Maisarah Azamuddin, International Islamic University Malaysia
3.15 – 3.20	POS19 Analysis of microbial community composition found in Malaysian bris soil. Hamizah Hazmeen Hairi, Universiti Pendidikan Sultan Idris

3.20 – 3.45	BREAK
3.45 – 4.00	Best oral/poster announcement & Closing ceremony by MSMPS2022 Chairman, Dr Suhaila Mohd Omar
	END OF DAY 2

LIST OF KEYNOTE & ORAL PRESENTATIONS

TAG	PRESENTER AND TITLES
K1	Impact of microbes and planetary health in transforming the research landscape post COVID era Prof. Emerita Datuk Dr Asma Ismail
P1	Environmental change and microbes Assoc. Prof. Dr Lee Choon Weng
P2	Using 'omics' to shed light on the role of microorganisms in the environment Prof. Dr Evelyn Doyle
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ORAL02	Antimicrobial Activities of Culturable Fungal Endophytes from Cymbidium and Dendrobium Orchids Ru Wei Chua, Keang Peng Song, Adeline Su Yien Ting
ORAL03	Microbial Community and Functional Characteristic of Leachate from Jeram and Jabor Landfill Using Metagenomics Approach Siti Marhamah Drahaman, Noor Faizul Hadry Nordin, Hamzah Mohd. Salleh, Husna Ahmad Tajuddin
ORAL04	Community Structure of Phenol-degrading Bacteria Enriched from Palm Oil Mill Effluent. Izzati Sabri, Norhayati Ramli, Mohd Zulkhairi Mohd Yusoff, Nor Azlan Nor Muhammad, Ho Li Sim
ORAL05	Enzybiotic from <i>Pseudomonas otitidis</i> Phage Isolated from Infected Tilapia as Potential Antimicrobials. Tee An Nie, Chong Chou Min, Shaufi bin Mohd Asrore, Khatijah binti Mohd Yusoff and Adelene Song Ai Lian
ORAL06	The Expression of Virulence Genes in Group B Streptococcus Isolated from Symptomatic Pregnant Women with Term and Preterm Delivery. Hanan H. Wahid, Fatin N. Anahar, Puteri F. D. Mustapha R., Mohammed I.A. Mustafa M., Hamizah Ismail.
ORAL07	Potential Effects of Bacteriocin Against Cariogenic Oral Pathogens. Malathi, G, Zaleha, S, Zamirah, ZA, Noraziah, MZ, Mazlina, MS.
ORAL08	Dynamic of Mixed Genotype HCV Infection in Plasma and Peripheral Blood Mononuclear Cells of Chronic Hepatitis C Haemodialysis Patients. Siti Nurul Fazlin Abdul Rahman, Hairul Aini Hamzah, Mohammed Imad A. Mustafa Mahmud.
ORAL09	Diversity of Acetyltransferase-type Toxin-antitoxin Loci in <i>Klebsiella pneumoniae</i>. Ying-Xian Goh, Peifei Li, and Hong-Yu Ou.

ORAL10	Streptococcus gallolyticus infection: a neglected marker for colorectal cancer? Che Muhammad Khairul Hisyam Bin Ismail, Edre Bin Mohammad Aidid, Hairul Aini Binti Hamzah, Mohd Shaiful Ehsan Bin Shalihin, Azmi Bin Md Nor
ORAL11	Antibacterial Evaluation of Dimeric Sesquiterpene Compound from Basidiomycetes Strain FRIM550 In Vivo in a MRSA Skin Infection Mouse Model. Vimalah, V., Getha, K., Zin, N. M., Abdul-Latif, M., Azahar, M. S., Syed Abdul-Rahman, S. N.
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POSTER PRESENTER	
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POS04	Agarose gel electrophoresis as a classical method to confirm recombinant vector sizes: Towards an amplification of ABA392 Haemorrhagic septicaemia (HS) vaccines B:2 Nur Nazirah Nasir, Salmah Ismail, and Nurshamimi Nor Rashid
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POS06	Vaccines as Sustainable Approach to Infectious Diseases: EPS-MH Adjuvanted Vaccine Against Mannheimiosis Ghaith Hussein Mansour, Mohd Effendy, Laith Abdul Razzak
POS07	In silico analysis and molecular docking study of Nipah Virus V protein against STATs family protein Chong Chee Ning, Chang Li Yen, Yvonne Liew Jing Mei, Anuar Jonet
POS08	Genome analysis of clinical <i>Acinetobacter soli</i> isolates from Terengganu Farahiyah Mohd Rani, Nor Iza A. Rahman, Salwani Ismail, Norlela Othman, Fatimah Haslina Abdullah, and Chew Chieng Yeo
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POS10	Air-liquid biofilm formation: A potential virulence factor in clinical carbapenem-resistant <i>Acinetobacter baumannii</i> Ng Heng Kang, Puah Suat Moi, and Chua Kek Heng
POS11	Antimicrobial activity produce from <i>Paenibacillus polymyxa</i> KP10 against Methicillin Resistant <i>Staphylococcus aureus</i>. Farah Syahrain Roslan, Nur Fadhilah Mokhtar, Suriana Sabri, Adelene Song Ai Lian, Wan Nur Ismah Wan Ahmad Kamil
POS12	Extraction of <i>Senna alata</i> (L.) roxb leaves using soxhlet, maceration and subcritical fluid method and antibacterial activities against <i>Staphylococcus aureus</i> and <i>Staphylococcus epidermidis</i>. Nadirah Abd Rahim, Sahena Ferdosh, and Nur Sabrina binti Ahmad Azmi
POS13	In Vitro Antibacterial and Wound Healing Activity of Sidr and Manuka Honey on Skin Dermal Fibroblast Cells. Asma Mohammed Al-Sayaghi, Abdelkodose Mohammed Al-Kabsi, and Mohammed Abdullah Alshawsh
POS14	Characterization of Indazoles and Thiazoles as anti-amoebic agents. Thevashree Rajanderan
POS15	Actinomycetes from bris soil: Investigation of potential candidate as new drug leads. 'Amirah Ahmad1 , Hamidah Idris, Hamizah Hazmeen Hairi, Muhammad Adib Zakwan Azman, Noraziah Mohamad Zin, Muhd Danish Daniel Bin Abdullah
POS16	Isolation and characterization of beneficial endophytic bacteria from <i>Oryza Sativa</i> cultivated in acid sulfate soil Nor Adilah binti A. Rani, Md Hoirul Azri bin Ponari, and Muhd Fahmi bin Yunus
POS17	Microalgae from Antarctic Soil. N. S. Mohamad Pauzi, Z.A. Zainal Abidin, Z. Zainuddin, A.J.K. Chowdhury
POS18	Characterization of heavy metal tolerance Rhizobacteria and its potential in bioremediation. Emyrah Ilya Maisarah Binti Azamuddin, Md Hoirul Azri bin Ponari, Ahmad Zaim Fahmi Bin Abdullah, Che Nurul Aini Binti Che Amri, and Mohd Fauzihan Bin Karim
POS19	Analysis of microbial community composition found in Malaysian bris soil. Hamizah Hairi, Hamidah Idris, Amirah Ahmad, Adib Zakwan, Noraziah Mohamad Zin, Muhd Danish Daniel Abdullah

ORAL10

***Streptococcus gallolyticus* INFECTION: A NEGLECTED MARKER FOR COLORECTAL CANCER?**

Che Muhammad Khairul Hisyam Bin Ismail*, Edre Bin Mohammad Aidid, Hairul Aini Binti Hamzah, Mohd Shaiful Ehsan Bin Shalihin, Azmi Bin Md Nor

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Colorectal cancer (CRC) is the second leading cancer in Malaysia with mostly detected at later stage, III and IV due to lack of awareness of CRC symptoms and signs. CRC is a multifactorial, however the clinical association of *Streptococcus gallolyticus* (*S. gallolyticus*) infection with the development of colorectal cancer were reported. Thus, a case-control study was conducted to identify the correlation and predictors of *S. gallolyticus* infection towards CRC among patients attending Sultan Ahmad Shah Medical Centre@IIUM. A total of 33 stool sample from patient diagnosed with CRC and 80 stool sample from patient without CRC attending Sultan Ahmad Shah Medical Centre@IIUM were collected and proceeded with iFOBT test and PCR assay for detection of *S. gallolyticus*. In this study, the proportion of *S. gallolyticus* infection was higher among CRC patients (48.5%) as compared to the control group (20%). The Pearson's, χ^2 or Fisher's exact analysis shows that the presence of occult blood in stool, *S. gallolyticus* infection, and family history were significantly associated with the development of CRC (p -value < 0.05). The best multivariate logistic regression model showed that positive stool PCR for *S. gallolyticus* had the lowest relative standard error (RSE) and almost 5 times the odds to develop CRC after controlling other factors (adjusted odds ratio= 4.7, 95% confidence interval= 1.7 – 12.6, RSE = 59.6%). This finding suggested that the *S. gallolyticus* infection was the strongest predictor towards development of CRC and potentially be used as a predictive marker for early detection of disease progression.

Keywords: Case study, Colorectal cancer, Predictors, *S. gallolyticus*, Stool PCR.

ACKNOWLEDGEMENTS

The Organising Committee for the
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