



اونیورسٹی ملیسیا پهانج
UNIVERSITI MALAYSIA PAHANG

iCIABC2I

INTERNATIONAL CONFERENCE ON INDUSTRY-ACADEMIA
INITIATIVES IN BIOTECHNOLOGY AND CHEMISTRY

20th – 21st December 2021

Virtual Conference

PROGRAMME

Organized by:

Green Technology & Drug Discovery and Diagnostic Research Clusters,
Faculty of Industrial Sciences and Technology,
Universiti Malaysia Pahang

Towards a Paradigm Shift in Technology for the
Advancement of Industry and Society



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PROGRAM AND TENTATIVE

CONFERENCE SCHEDULE

Day 1 – 20th December 2021

Time	Event
08:15 – 09:00	Registration
09:00 – 09:15	Opening Speech: Prof. Dr. Jayarama Reddy Venugopal Chairman of iClABC21, Faculty of Industrial Sciences and Technology, UMP
09:15 – 09:30	Welcome Speech: Professor Ts. Dr. Kamal Zuhairi bin Zamli Deputy Vice-Chancellor (Research & Innovation), UMP
09:30 – 10:15	Plenary Speech: En. Mohd Khairul Fidzal Abdul Razak CEO, Bioeconomy Corp.
10:15 – 11:00	Keynote 1: Prof. Dr. Nor Hadiani Ismail Director, Atta-Ur Rahman Institute for Natural Product Discovery, UiTM Title: The Role, Challenges and Future Prospects of Natural Products: Academia, Industry and Societal Relevance
Theme	
Food Science & Technology	Genomics & Transcriptomics
11:00 – 11:05	Session Login and Preparation
11:05 – 11:35	Invited Speaker: Mdm. Nur Azwani Ab Karim (Sime Darby Research Sdn. Bhd.) Title: Versatility of Palm Oil in Food Application
	Invited Speaker: Dr. Gan Han Ming (GeneSEQ Sdn. Bhd.) Title: Current NGS Landscape in Malaysia
	Invited Speaker: Dr. Teh Chin Hoe (Bruker (M) Sdn. Bhd.) Title: NMR as Structure Characterization and Elucidation Tool for Analytical Chemistry of Natural Products
	Invited Speaker: Assoc. Prof. Dr. Nina Suhaity Azmi (GlycoBio Int. Sdn. Bhd.) Title: Moving Technology from Lab to Market
	Invited Speaker: Asst. Prof. Dr. Vijitra Luang-In (Mahasarakham University, Thailand) Title: Beneficial Microbes in Food and Feed

	Session 1A	Session 1B	Session 1C	Session 1D	Session 1E	Session 1F
11:35 – 11:55	Paper ID M009	Paper ID G071	Paper ID D034	Paper ID D081	Paper ID E059	Paper ID A048
11:55 – 12:15	Paper ID M024	Paper ID A162	Paper ID D038	Paper ID D108	Paper ID E070	Paper ID A049
12:15 – 12:35	Paper ID M060	Paper ID M178	Paper ID D044	Paper ID D119	Paper ID E106	Paper ID A018
12:35 – 12:55	Paper ID M077			Paper ID M176		Paper ID A040
12:55 – 13:15						Paper ID A047
13:15 – 14:00						Break
14:00 – 14:45						Keynote 2: Dr. Mohd Zulkifli Mustafa USM, Health Campus
						Title: Pioneering Innovations, Transforming Communities: Stingless Bee Project to Improve Socio-economy and Ecology
Theme	Food Science & Technology	Genomics & Transcriptomics	Natural Product & Medicinal Chemistry	Medical & Healthcare Biotechnology	Industrial Biotechnology & Applied Microbiology	
14:45 – 14:50						Session Login and Preparation
	Session 2A	Session 2B	Session 2C	Session 2D	Session 2E	Session 2F
14:50 – 15:10	Paper ID M126	Paper ID M189	Paper ID D148	Paper ID D185	Paper ID C179	Paper ID A052
15:10 – 15:30	Paper ID B193	Paper ID C032	Paper ID D164	Paper ID D135	Paper ID A092	Paper ID A086
15:30 – 15:50	Paper ID C146	Paper ID C120	Paper ID D180	Paper ID D137	Paper ID A094	Paper ID C084
15:50 – 16:10		Paper ID C130	Paper ID D183	Paper ID E151		
16:10 – 16:30	Paper ID C131	Paper ID C131	Paper ID C147	Paper ID M165		
16:30						END DAY 1

Day 2 – 21st December 2021

Time	Event		
Time	Theme		
9:00 – 09:45		Keynote 3: Prof. Ts. Dr. Rashidi Bin Othman IIUM Title: New Insights into Carotenoid Extracts Production: From Chemical Extraction, HPP to SFE Technology	
9:45 – 10:30		Keynote 4: Dr. Cheng Ming-Hsun University of Illinois at Urbana-Champaign, USA Title: The Perspective on Cellulosic Biorefinery for Producing Value-Added Bioproducts	
10:30 – 10:35	Industrial Chemistry & Biochemistry	Computational Biology & Chemistry	Green Technology, Renewable Energy & Environmental Sciences Nanotechnology and Biomaterials
10:35 – 11:05	Mdm. Siti Normaimunah Arifin (Winwa Medical Sdn. Bhd.) Title: HPLC Spectroscopy and its Application in Pharmaceutical Analysis	Invited Speaker: Assoc. Prof. Dr. Azzmer Azzar Abdul Hamid (IIUM) Title: Biomolecular Dynamics of Microbial Proteins	Session Login and Preparation Invited Speaker: Mr. William Rodney Yeo (Airestec Sdn. Bhd.) Title: Multi-Enzyme Technology: From Pyramid to Diamond
11:05 – 11:25	Paper ID B057	Paper ID K061	Session 3D Paper ID H008 Paper ID L058
11:25 – 11:45	Paper ID B027	Paper ID K062	Session 3E Paper ID H144 Paper ID L111
11:45 – 12:05	Paper ID B068	Paper ID K063	Session 3F Paper ID H046 Paper ID L155
12:05 – 12:25	Paper ID B075	Paper ID K064	Paper ID H033 Paper ID L097
12:25 – 12:45	Paper ID B149	Paper ID J118	

13:05 – 14:00						Break
14:00 – 14:45						Keynote 5: Assoc. Prof. Dr. Ma Nyuk Ling UMT
			Title: Fungal Science for sustainable economic development			
Theme	Industrial Chemistry & Biochemistry	Computational Biology & Chemistry	Green Technology, Renewable Energy & Environmental Sciences			Nanotechnology & Biomaterials
14:45 – 14:50				Session Login and Preparation		
					Session 4F	
14:50 – 15:10	Paper ID J171	Paper ID K134	Paper ID I110	Paper ID I138	Paper ID I121	Paper ID H073
15:10 – 15:30	Paper ID J173	Paper ID K125	Paper ID I113	Paper ID I184	Paper ID I122	Paper ID H069
15:30 – 15:50	Paper ID J169	Paper ID K167	Paper ID I117	Paper ID I161	Paper ID I190	Paper ID I010
15:50 – 16:10		Paper ID K166		Paper ID I026	Paper ID I083	Paper ID I080
16:10 – 16:30						
16:30 – 17:00			Closing ceremony			
17:00			END			

* This tentative is subjected to change and update depending on the number of participants and final title confirmation by speakers.

* The schedule in this program book uses **Malaysian Standard Time (UTC +8:00)**

PRESENTATION **L**I**S**T

MONDAY, 20 DECEMBER 2021

SESSION 2C Natural Product & Medicinal Chemistry		Chair: Assoc. Prof. Dr. Suhaila Mohd Omar Host: Ms. Nurul Nadiah Binti Hamidon	
Time	Presentation Title	Paper ID	Presenter
14:50 - 15:10	Identification and characterization of endophytic fungi from <i>Garcinia atroviridis</i> for potential antagonistic against phytopathogenic, <i>Colletotrichum gloeosporioides</i>	D148	Nor'aishah Hasan, Universiti Teknologi MARA
15:10 - 15:30	Elicitor-induced phytochemical properties and transcriptional changes of genes associated with 20-hydroxyecdysone biosynthesis in <i>Asparagus officinalis</i>	D164	Waraphon Wichit, Kasetsart University, Kamphaeng Saen Campus
15:30 - 15:50	A study on active functional group from <i>Rhizophora apiculata</i> extract used by a Malay as medicine and tanning	D180	Razanah Binti Ramya @ Abd Rahim, Universiti Kebangsaan Malaysia
15:50 - 16:10	Effect of ph on chromaticity and colour stability of curcumin and pla-curcumin coating	D183	Ainaa Eliah Binti Abu Bakar, International Islamic University Malaysia
16:10 - 16:30	A recent review on phytochemical constituents and medicinal properties of sambau paya (<i>Chloranthus erectus</i>)	C147	Nor'aishah Hasan, Universiti Teknologi MARA
16:30 - 16:50			End of session

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MONDAY, 20 DECEMBER 2021

SESSION 2D Natural Product & Medicinal Chemistry		Chair: Assoc. Prof. Dr. Murni Halim Host: Assoc. Prof. Dr. Tan Suat Hian	
Time	Presentation Title	Paper ID	Presenter
14:50 - 15:10	Carotenoid pigments from selected green and blue-green algae species cell culture as potential halal food colorants	D185	Haslin Hanani Binti Md Zaini, International Islamic University Malaysia
15:10 - 15:30	A comprehensive review of the ethnobotanical, phytochemical and pharmacological properties of the genus <i>Bambusa</i>	D135	Mohammad Amil Zulhilmi Bin Benjamin, Universiti Malaysia Sabah
15:30 - 15:50	Grain biochemical composition in carriers of a combination of maize mutant genes o2su2	D137	Tymchuk Dmytro S., Kharkiv Institute of Medicine And Biomedical Sciences
15:50 - 16:10	Anti-apoptotic actions of safinamide in 6-hydroxydopamine-induced cell model of parkinson's disease	E151	Koh Rhun Yian, International Medical University
16:10 - 16:30	Sensory, proximate, and physicochemical properties of <i>Moringa oleifera</i> leaf juice after clarification by pectinase treatment	M165	Fan Hui Yin, Universiti Malaysia Sabah
16:30 - 16:50			End of session
			* The schedule in this program book uses Malaysian Standard Time (UTC +8:00)

TUESDAY, 21 DECEMBER 2021

SESSION 4D Green Technology, Renewable Energy & Environmental Sciences		Chair: Dr. Rohasliney Hashim Host: Dr. Nazikussabah Binti Zaharudin	
Time	Presentation Title	Paper ID	Presenter
14:50 - 15:10	Reuse of agricultural waste to adsorp Fe metal content in acid mine water	I138	Lailan Ni'Mah, Lambung Mangkurat University
15:10 - 15:30	Malay poison: A study on <i>Melaluca cajuputi</i> extract as potential natural herbicide to suppress aquatic weed growth	I184	Wan Sybrah Hanisah Binti Wan Sulaiman, International Islamic University Malaysia
15:30 - 15:50	Using management system standards for improving organisational and national perception. A case of ISO 37001:2016	I161	Dewi Tamara, Bina Nusantara University
15:50 - 16:10	Assessment of drinking water quality using the NSFWQI model: A case study of Alzuhur water supply station and quarters included in the distribution network	I026	Abdulaziz Younis Talea Al-Saffawi, Mosul University
		End of session	

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ABSTRACTS

Carotenoid Pigments from Selected Green and Blue-Green Algae Species Cell Culture as Potential Halal Food Colorants

Wan Syibrah Hanisah Wan Sulaiman^{1, a}, Haslin Hanani Md Zaini^{1, b}, Rashidi Othman^{2, c}, Farah Ayuni Mohd Hatta^{3, d}, Razanah Ramya^{4, e} and Nur Hanie Mohd Latif^{1, f}

¹International Institute for Halal Research and Training, International Islamic University Malaysia, Kuala Lumpur, Malaysia

²Herbarium Unit, Department of Landscape Architecture, Kulliyyah of Architecture and Environmental Design,

International Islamic University Malaysia, Kuala Lumpur, Malaysia ³Institute of Islam Hadhari, The National University of Malaysia,

Bangi, Selangor Darul Ehsan, Malaysia ⁴Institute of the Malay World and Civilization, The National University of Malaysia, Bangi, Selangor Darul Ehsan, Malaysia

^asyibrahanis@iium.edu.my, ^bhaslinhanani96@gmail.com, ^crashidi@iium.edu.my, ^dfarahayuni@km.edu.my, ^erazanah.ramya@ukm.edu.my, ^fnurhanielatiff@iium.edu.my

Keywords: carotenoid, green algae, cyanobacteria, natural pigment, halal market

Abstract. Halal products are becoming widely recognised as a new standard for quality assurance and safety and also there is a strong need to investigate the potential of natural pigments, particularly carotenoids in microalgae to be fully commercialised especially in halal market, health advantages, food products and dye technology. Therefore, this research aimed is to explore new sources of pigments as halal food colourant. A total of 13 species were evaluated for carotenoid profile quantitative and qualitatively, namely, *Chlorella fusca*, *Chlorella vulgaris*, *Selenastrum capricornutum*, *Pandorina morum*, *Botryococcus sudeticus*, *Botryococcus braunii*, *Chlorococcum* sp., *Ankistrodesmus* sp., *Scenedesmus* sp., *Pseudanabaena* sp., *Synechococcus* sp., *Alkalinema* sp., and *Phormidium* sp. The first 9 species are green algae while the remaining 4 are cyanobacteria. The main carotenoids identified through HPLC analysis were β-cryptoxanthin, β-carotene, zeaxanthin, neoxanthin, lutein and violaxanthin which varies in ratio between species. β-cryptoxanthin was detected substantially higher in *Phormidium* sp. (30.58 µg/g DW); β-carotene in *C. vulgaris* (356.15 ug/g DW); zeaxanthin in *Synechococcus* sp. (7731.30 µg/g DW); neoxanthin in *Chlorococcum* sp. (129.27 µg/g DW); whereas lutein and violaxanthin in *C. fusca* (220.14 µg/g DW) and (307.94 µg/g DW) respectively. The research's significant outcome will be discoveries of new natural carotenoid pigment sources as potential food colorants for halal industry.