THAILAND HALAL ASSEMBLY 2021

Book of Abstracts

The International Halal Science and Technology Conference (IHSATEC) 2021;
The 14th Halal Science, Industry and Business (HASIB) Virtual Conference

December 14–15, 2021

Organized by:

Supported by:

THAILAND HALAL ASSEMBLY 2021

Book of Abstracts

The International Halal Science and Technology Conference (IHSATEC) 2021;
The 14th Halal Science, Industry and Business (HASIB) Conference
Virtual Conference
December 14-15, 2021

Publisher:
The Halal Science Center Chulalongkorn University
Office Address:
254 Chulalongkorn Research Bld.,
11th-13th Fl., Phayathai Rd., Wangmai, Pathumwan,
Bangkok, 10330
Phone: (+66) 2 218-1054
Fax: (+66) 2 218-1104
E-mail: tha.conference@gmail.com
http://www.thailandhalalassembly.com

Publisher: Yayasan Sinergi Riset dan Edukasi
(Research Synergy Foundation)
Office Address:
Komplek Sinergi Antapani
Jl. Nyaman 31, RT01 RW23, Bandung 40291,
Indonesia Contact: (+62) 811227479 /
(+62) 8112331733
Email: contact@researchsynergy.org

E-ISBN: 978-623-5724-06-5 (PDF)

National Library of Thailand Cataloging in Publication Data
The Halal Science Center Chulalongkorn University.
Book of Abstracts-International Halal Science and Technology Conference (IHSATEC) 2021; The 14th Halal Science, Industry and Business International (HASIB).-- 2nd ed.-- Bangkok : The Halal Science Center Chulalongkorn University, 2022.
94 p.

1. Food sciences -- Congresses and conventions. 2. Halal food industry--Congresses and conventions. 3. Halal food--Congresses and conventions. I. Title.

664
ISBN 978-616-407-682-2

Chief of Editor:
Dr. Pornpimol Mahamad
Dr. Hendrati Dwi Mulyaningsih
Sunainee Mahama
Santi Rahmawati

Cover and layout design:
Bakeeya Bindoloh
Diah Rahmadani
Refani Putri S F.
Risky Adha P

First edition published 2021
This edition published 2022

THAILAND HALAL ASSEMBLY 2021

Book of Abstracts

Organized by:

ORGANIZING COMMITTEES

CONFERENCE ORGANIZERS

The Halal Science Center Chulalongkorn University (HSC-CU), Thailand

PROGRAM COMMITTEES

Conference Chair:

Assoc. Prof. Dr. Winai Dahlan

Founding Director, The Halal Science Center Chulalongkorn University (HSC-CU), Thailand

Co - IHSATEC 2021's program conference chair

Dr. Hendrati Dwi Mulyaningsih

Research Synergy Foundation (RSF), Indonesia

Local Organizing Committees

Dr. Pornpimol Mahamad
Dr. Acharee Suksuwan
Dr. Najwa Yanya Santiworakun
Dr. Kasinee Katelakha
Ms. Sunainee Mahama
Ms. Nareeya Waloh
Ms. Baddariyah Sohsansa
Ms. Kunthira Salae
Ms. Saveeyah Kahong
Ms. Tuanyasmin Saerae
Ms. Nureesun Mahamud (Ph.D candidate)
Ms. Marisa Marnpae (Ph.D candidate)

Co-Organizing Committees

Santi Rahmawati
Ani Wahyu Rachmawati
Diah Rahmadani
Risky Adha
Refani Putri Shintya Fatoni

SCIENTIFIC PEER REVIEW COMMITTEES

Prof. Dr. Mosaad Attia Abdel-Wahhab
Department of Food Toxicology & Contaminants Department, National Research Center, Dokki, Cairo, Egypt

Prof. Dr. Hamzah Mohd Salleh
Dean of International Institute for Halal Research and Training (INHART), Kuala Lumpur, Malaysia

Prof. Dr. Nazimah Hamid
Auckland University of Technology, New Zealand

Assoc. Prof. Dr. Pakorn Priyakorn
Director of the Halal Standard Institute of Thailand, Thailand

Asst. Prof. Dr. Tewarit Sarachana
Age-related Inflammation and Degeneration Research Unit, Department of Clinical Chemistry, Faculty of Allied Health Sciences, Chulalongkorn University, Bangkok, Thailand

Asst. Prof. Dr. Pradorn Sureephong
Assistant Director of the Halal Science Center, Chulalongkorn University, Thailand

SCIENEC & TECHNOLOGY JUDGING COMMITTEES

Prof. Dr. Mosaad Attia Abdel-Wahhab
Prof. Dr. Nazimah Hamid
Dr. Pakpum Somboon

SOCIAL SCIENCE & MARKETING JUDGING COMMITTEES

Prof. Dr. Faridah Hj Hassan
Prof. Dr. Abdelaziz Bouras
Asst. Prof. Dr. Pradorn Sureephong

FOREWORD

Research Synergy Foundation is a digital social enterprise platform that focuses on developing Research Ecosystem towards outstanding global scholars. We built collaborative networks among researchers, lecturers, scholars, and practitioners globally for the realization of knowledge acceleration. We promote scientific journals among countries as an equitable distribution tool of knowledge. We open research collaboration opportunities among countries, educational institutions, organizations and among researchers as an effort to increase capabilities.

Known as a catalyst and media collaborator among researchers around the world is the achievement that we seek through this organization. By using the media of International Conference which reaches all researcher around the world we are committed to spread our vision to create opportunities for promotion, collaboration and diffusion of knowledge that is evenly distributed around the world

Our Vision:

As global social enterprise that will make wider impact and encourage acceleration quality of knowledge among scholars.

Our Mission:

First, developing a research ecosystem towards outstanding global scholars. Second, Promoting scientific journals among countries as an equitable distribution tool of knowledge. Third, opening research collaboration opportunities among countries, educational institutions, organizations and among researchers as an effort to increase capabilities. Fourth, creating global scientific forum of disciplinary forums to encourage strong diffusion and dissemination for innovation.

https://www.researchsynergy.org/

PREFACE

Thailand Halal Assembly 2021, International Halal Science and Technology Conference (IHSATEC) 2021; The 14th Halal Science Industry and Business (HASIB) Conference is organized by the Halal Science Center Chulalongkorn University (HSC-CU) in collaboration with the Central Islamic Council of Thailand (CICOT), the Halal Standard Institute of Thailand (HSIT), Research Synergy Foundation (RSF) as well as the other organizations. Owing to the ongoing global pandemic of COVID-19, this IHSATEC 2021; 14th HASIB conference during 14-15 December 2021 was the second fully virtual conference with the government's preventive measures, to pay a tribute under the main theme "A VIRTUAL WAY FOR ACTUAL HALAL WORLD."

This booklet includes curriculum vitas and abstracts of keynotes, speakers in four plenary sessions at IHSATEC 2021; 14th HASIB conference. About 24,346 professionals and international participants attended the conference (updated 20 December 2021), which featured three invited keynote speakers and 57 contributions from 18 honourable experts from six countries, including Egypt, Indonesia, Malaysia, Turkey, the United Kingdom, and Thailand. The academic session also included 11 notable session chairmen and judging committee, as well as 31 academic presenters from eight nations including Egypt, Indonesia, Malaysia, New Zealand, the Philippines, Qatar, Singapore, and Thailand. Participants will get the opportunity to discuss and share their knowledge, experiences, and new ideas on Halal science, technology, innovation, industry, and commercial marketing.

My deepest thanks go to our dedicated staff committees for their devotion, enthusiasm, and tremendous effort in making the conference fruitful and memorable. A special thanks to all of the speakers and the session chairmen, as well as presenters. Your participation in this conference is much appreciated.

.....

Associate Prof. Dr. Winai Dahlan
Chairman of the Organizing Committee
Thailand Halal Assembly 2021

Editor IHSATEC 2021;14th HASIB Book of Abstracts

TABLE OF CONTENTS

PROGRAM

Day-1 December 14, 2021			
Time (GMT+7)	**Room I The 14th HASIB**	**Time (GMT+7)**	**Room II Academic presentation**
8.00-8.30	Registration (virtual conference will be launched for participants) Speakers & committee are expected to be ready at the virtual lounge		
8.30-8.45	Welcome remark and Introduction IHSATEC 2021; 14th HASIB by Associate Professor Dr. Winai Dahlan Founding Director, the Halal Science Center Chulalongkorn University (HSC-CU), Thailand		
8.45-9.00	Academic, publication and global research ecosystem introduction by Dr. Hendrati Dwi Mulyaningsih Founder and Chairperson of Research Synergy Foundation (RSF), Indonesia		
9.00-10.30	**Session-1** **Halal Plant-based innovative products and ingredients for cosmetic** **Session chair:** **Prof. Dr. Senator Nur Bahagia** Institut Teknologi Bandung (ITB), Indonesia	9.00-9.10	**Session Chair & Judging Committees Introduction** **Session chairs:** **- Dr. Sheryl H. Ramirez, RN, MAN, LPT, Ph. D.** - Universidad de Manila, Phillipines **- Dr. Oktoviano Gandhi** - National University of Singapore **Judging Committees:** **- Prof. Dr. Nazimah Hamid** - Auckland University of Technology, New Zealand **- Dr. Pakpum Somboon** - Faculty of Engineering, Chulalongkorn University, Thailand

PROGRAM

Day-1 December 14, 2021			
Time (GMT+7)	**Room I** The 14th HASIB	**Time** (GMT+7)	**Room II** Academic presentation
9.00-9.20	**Title: Exploring the emerging role of cyanobacteria in the development of high-value nutraceutical and cosmeceutical products** Speaker: **Dr. Simab Kanwal** Faculty of Pharmaceutical Sciences, Chulalongkorn University, Thailand	9.10- 9.25	**Presenter:** HST21147 - **Loremelo Juayang Catindoy** **Title:** Ensure the Proper Wearing of Face Masks Using Machine Learning To Fight Covid-19 Virus
9.20-9.40	**Title: Seaweeds and Herbs as Potential Halal Materials for Promoting Health** Speaker: **Prof. Dr. Irwandi Jaswir** Dean for Academic, Research, and Publication at INHART, the International Islamic University Malaysia (IIUM)	9.25-9.40	**Presenter:** HST21148 – **Fronthea Swastawati** **Title:** The Chemical Composition, Microbiology and Micronutrients Changes of Fresh Barracuda Fish and Smoked Barracuda Fish using Different Smoking Methods
9.40-10.00	**Title: Halal Product Development for Plant-Based Cosmetic** Speaker: **Prof. IR. Dr. Yus Aniza Yosuf** Deputy Director, Halal Products Research Institute, Universiti Putra Malaysia (UPM)	9.55-10.10	**Presenter:** HST21166 – **Habilla Chapakiya** **Title:** Effect of amino acids and taste components on fermented fish sauce (Budu) from Thailand

PROGRAM

<table>
<tr><th colspan="4">Day-1 December 14, 2021</th></tr>
<tr><th>Time
(GMT+7)</th><th>Room I
The 14th HASIB</th><th>Time
(GMT+7)</th><th>Room II
Academic presentation</th></tr>
<tr><td>10.00-10.30</td><td>Question/Answer</td><td>10.10-10.25</td><td>Presenter: HST21160 –
Dr. Moohamad Ropaning Sulong
Title: Response Surface Methodology based Optimization of Microbial Amylase Production using Banana Peels as Carbon Source</td></tr>
<tr><td rowspan="2">10.30-10.45</td><td rowspan="2">Poster session/ Coffee Break</td><td>10.25-10.40</td><td>Presenter: HST21167 –
Saveeyah Kahong
Title: Duplex droplet digital PCR assay for bovine and porcine quantification in gelatin capsules</td></tr>
<tr><td>10.40-10.45</td><td>Poster session/ Coffee Break</td></tr>
<tr><td>10.45-12.15</td><td>Session-2:
Systematic monitoring in Halal production process

Session chair: Assoc. Prof. Dr. Chaleeda Borompichaichartkul
Department of Food Technology,
Faculty of Science,
Chulalongkorn University</td><td>10.45-11.00</td><td>Presenter: HST21168 –
Reynaldo Guinto Alvez
Title: The Development of A Cloud-based University Research Repository Software Using A Configurable Subscription Model</td></tr>
</table>

PROGRAM

<table>
<tr><th colspan="4">Day-1 December 14, 2021</th></tr>
<tr><th>Time
(GMT+7)</th><th>Room I
The 14th HASIB</th><th>Time
(GMT+7)</th><th>Room II
Academic presentation</th></tr>
<tr><td>10.45-11.05</td><td>Title: Globalisation and Fostering a true halal logistics and supply chain activity: What does it take?
Speaker: Assoc. Prof. Dr. Nor Aida Binti Abdul Rahman.
Universiti Kuala Lumpur, Malaysian Institute of Aviation Technology (UniKL MIAT), Malaysia</td><td>11.00-11.15</td><td>Presenter: HST21169 – Nashratul Shera Mohamad Ghazali
Title: Influence of Storage Temperature on the Quality of Geniotrigona thoracica Honey</td></tr>
<tr><td>11.05-11.35</td><td>Title: Exploration of the selective binding property of the MIP-grafted paper for Cochineal dye
Speaker: Dr. Acharee Suksuwan, The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand</td><td rowspan="3">11.15-11.45</td><td rowspan="3">Awarding Certificate of Presentation, Testimonial, and Post-conference information announcement</td></tr>
<tr><td>11.35-11.55</td><td>Title: Creation of innovative monitoring tools to leverage a quality assurance system for halal food industries in Thailand.
Speaker: Dr. Anat Denyingyhot, The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand</td></tr>
<tr><td>11.55-12.15</td><td>Question/Answer</td></tr>
</table>

PROGRAM

Day-1 December 14, 2021			
Time (GMT+7)	**Room I** The 14th HASIB	**Time** (GMT+7)	**Room II** Academic presentation
12.15-13.00	Lunch and Dhuhr prayer		
13.00-15.15	**Grand Opening Ceremony**		
13.00-13.10	Opening Ceremony and Recitation of the Holy Al-Quran		
13.10-13.20	**Welcoming Remark by Police Major General Surin Palarae,** Secretary General of the Central Islamic Council of Thailand		
13.20-13.30	**Opening Remark by Assoc. Prof. Dr. Winai Dahlan,** Founding Director, the Halal Science Center Chulalongkorn University (HSC-CU)		
13.30-13.40	**Opening Remark by Chairman of opening ceremony, H.E.Mr. İhsan ÖVÜT**, Secretary General, The Standards and Metrology Institute for the Islamic Countries (SMIIC)		
13.40-13.45	**Dua by Mr. Prasarn Srijaroen,** Vice President of the Central Islamic Council of Thailand and Vice President of Islamic Scholar Committee of Sheikhul Islam of Thailand		
13.45-14.00	**Keynote Speaker: Mr. Alongkorn Pollabutra,** Chief Advisor to Minister of Agriculture and Cooperatives **Topic: The Transformation of Thailand Halal Strategies to Unlock Halal Value-Added Growth Prospects of Agricultural Products**		
14.00-14.20	**Keynote Speaker: H.E. Mr. İhsan ÖVÜT,** SMIIC Secretary General **Topic: SMIIC Strategic Vision 2030: Creating a Quality Infrastructure for Economic and Welfare Development of Member States.**		
14.20-14.40	**Keynote Speaker: Assoc. Prof. Dr. Winai Dahlan,** Founding Director, Halal Science Center Chulalongkorn University **Topic: Lesson Learned from COVID-19 Vaccines to Plant-Based Food: How to Make Them All Halal?**		
14.40-15.15	**Poster session/ Coffee Break**		

PROGRAM OF IHSACC 2021 & ACADEMIC PRESENTATION

<table>
<tr><th colspan="4">Day-1 December 14, 2021</th></tr>
<tr><th>Time
(GMT+7)</th><th>Room I
IHSACC 2021</th><th>Time
(GMT+7)</th><th>Room II
Academic presentation</th></tr>
<tr><td rowspan="4">15.15-16.15</td><td rowspan="4">Session I

Topic:
Conformity Assessment:
The Appropriate
Requirements for Bodies
Providing Halal Certification.

Speaker: Mete Çevik –
Halal Accreditation Agency
(HAK) of Turkey
Moderator: Dr. Mohammad
Hossein Shojaee AliAbadi,
Chair of SMIIC Committee on
Standards for Conformity
Assessment (CCA)</td><td>15.15-15.25</td><td>Session Chair & Judging Committee Introduction:
Session Chairs:
- Julenah binti AG NUDDIN, PhD.
- Universiti Teknologi MARA, Malaysia
- Dr. Prameshwara Anggahegari
- Institut Teknologi Bandung, Indonesia
Judging Committee
- Prof. Dr. Mosaad Attia Abdel -Wahhab - Department of Food Toxicology & Safety, National Research Center, Egypt</td></tr>
<tr><td>15.25-15.40</td><td>Presenter: 4638 –
Isah Umar Usman
Title: Potentials of Microbes as Bio-Control Agents</td></tr>
<tr><td>15.40-15.55</td><td>Presenter: HST21149 -
Dewi Juliana
Title: Formulation of Coenzyme Q10 Liquid Foundation with a Variations Olive oil as the oil phase</td></tr>
<tr><td>15.55-16.10</td><td>Presenter: HST21157 –
Ulfiyatun Nafi’ah
Title: Formulation of Coenzyme Q10 Liquid Foundation with a Variations Virgin Coconut Oil as The Oil Phase</td></tr>
</table>

PROGRAM OF IHSACC 2021 & ACADEMIC PRESENTATION

<table>
<tr><th colspan="4">Day-1 December 14, 2021</th></tr>
<tr><th>Time
(GMT+7)</th><th>Room I
IHSACC 2021</th><th>Time
(GMT+7)</th><th>Room II
Academic presentation</th></tr>
<tr><td rowspan="4">16.15-17.15</td><td rowspan="4">Session II

Topic: The Significant and Progressive Movement of the New Halal Food Standard

Speaker:
Dr. Mediha Esra YAYLA,
Chair of (TC1)
Moderator:
Ms. Tuğba Daysaloğlu,
Secretary of Halal Food Issues (TC1)</td><td>16.10-16.25</td><td>Presenter: HST21163 - Thalia Marviani
Title: Formulation of Coenzyme Q10 Liquid Foundation with a Variations Linseed Oil as The Oil Phase</td></tr>
<tr><td>16.25-16.40</td><td>Presenter: HST21162 - Bakhtawar Khair Muhammad Pirzada
Title: Synergistic effect of Euphorbia Milii with Tannic Acid as a disinfectant against Escherichia coli and Staphylococcus aureus</td></tr>
<tr><td>16.40-16.55</td><td>Presenter: HST21164 - Noor-un-Nisa Ghanghro
Title: In-vitro antimicrobial activity of Lactuca Sativa Leaves against Isolated Clarithromycin-resistant Superbugs</td></tr>
<tr><td>16.55-17.10</td><td>Awarding Certificate of Presentation, Testimonial, and Post-conference information announcement</td></tr>
</table>

PROGRAM OF IHSACC 2021 & ACADEMIC PRESENTATION

Day-1 December 14, 2021			
Time (GMT+7)	**Room I** IHSACC 2021	**Time** (GMT+7)	**Room II** Academic presentation
17.15-18.15	**Session III** **Topic: The Influence of Science and Technology on Halal Cosmetics Products.** **Speaker: Dr. Mohammed Ali Alsheikh Wace,** The Standards and Metrology Institute for Islamic Countries (SMIIC)	17.10-17.30	**Award Ceremony Day-1**
18.15	**End of Day-1**		

PROGRAM

Day-2 December 15, 2021			
Time (GMT+7)	**Room I** The 14th HASIB	**Time** (GMT+7)	**Room II** Academic presentation
08.00-8.30	Registration (virtual conference will be launched for participants) Speakers & committee are expected to be ready at the virtual lounge		

PROGRAM

Day-2 December 15, 2021			
Time (GMT+7)	**Room I** The 14th HASIB	**Time** (GMT+7)	**Room II** Academic presentation
		09.00-09.30	**Session Chair & Judging Committees Introduction:** **Session Chairs:** - **Setyowati Triastuti Utami, PhD.** - Univeristas Gadjah Mada, Indonesia **Judging Committees:** - **Prof. Dr. Faridah Hj Hassan** - Founder of iHalal Management and Science (iHALALMAS), Universiti Teknologi MARA Shahalam, Malaysia - **Prof. Dr. Abdelaziz Bouras** - College of Engineering, Qatar - **Asst. Prof. Dr. Pradorn Sureephong** - Assistant Director of the Halal Science Center, Chulalongkorn University, Thailand
		09.30-09.45	**Presenter:** 4744 – **Edmar Garcia Tan** **Title:** Sms-based information dissemination system with android application controller for Taguig City University
		09.45-10.00	**Presenter:** 4746 – **Jesus Nava Abalo** **Title:** Capabilities of Computer Algorithm like Human Brain Utilizing Artificial Neural Networks: A Task (Technology Advancement of Soft-skills and Knowledge)

PROGRAM

<table>
<tr><th colspan="4">Day–2 December 15, 2021</th></tr>
<tr><th>Time
(GMT+7)</th><th>Room I
The 14th HASIB</th><th>Time
(GMT+7)</th><th>Room II
Academic presentation</th></tr>
<tr><td rowspan="2">10.00-10.30</td><td rowspan="2">Topic: Overview of Taiwan Halal Industry Directions of Halal Economy in Taiwan

Speaker: Ms.Sylvia Chen, Deputy Director of Taiwan Halal Center, Taiwan External Trade Development Council (TAITRA)</td><td>10.00-10.15</td><td>Presenter: HST21155 – Edi Supardi
Title: Analysis of family food cost during lockdown based on Activity Based Costing and food frequency Questionnaire</td></tr>
<tr><td>10.15-10.30</td><td>Presenter: HST21165 – Neneng Windayani
Title: Feasibility Study of Slaughterhouses as A Source of Halal Meat Processed Meat-Based Food in Bandung City</td></tr>
<tr><td>10.30-10.45</td><td>Poster session/ Coffee Break</td><td>10.30-10.45</td><td>Presenter: 4748 – Celine Dianne Tamparong Montano
Title: Android SMS and File Manager Encrypted Application Using AES-Vigenere and AES/ECB/PKCS5/Padding a Hybrid Encryption Algorithm</td></tr>
<tr><td>10.45-12.15</td><td>Session–3
Topic: Start up and Young Entrepreneurship for Future Thailand’s Economy
Session chair:
Prof. Dr. Faridah Hj Hassan, Founder of iHalal Management and Science (iHALALMAS), Universiti Teknologi MARA Shahalam, Malaysia</td><td>10.45-11.00</td><td>Presenter: 4783 – Hilmah Zuryani
Title: Readiness of Creative Umkm Based On Digital Economy (Digital Economy) Pekanbaru City In Facing The Era of The Industrial Revolution 4.0</td></tr>
</table>

PROGRAM

<table>
<tr><th colspan="4">Day-2 December 15, 2021</th></tr>
<tr><th>Time
(GMT+7)</th><th>Room I
The 14th HASIB</th><th>Time
(GMT+7)</th><th>Room II
Academic presentation</th></tr>
<tr><td rowspan="5"></td><td rowspan="5">Speakers:
Mr. Pongpol Yodmuangcharoen,
CCO and Co-Founder of
Tough & Tumble
Assist. Prof. Dr. Sathaporn
Ngamukote,
Co-Founder of Tann:D
Mr. Fuadi Pitsuwan,
Co-Founder of Beanspire
Coffee

Question/Answer</td><td>11.00-11.15</td><td>Presenter: 4693 -
Irwan Shah Bin Abdullah
Title: eHalal Market Report for Malaysian Halal Food Exporters to Europe</td></tr>
<tr><td>11.15-11.30</td><td>Presenter: HST21158 –
Jinky Baguasan Tumasis
Title: Web-Based Platform for Don Bosco High School – Senior High School – Technical Vocational Education Track in Adoption of Hybrid Learning</td></tr>
<tr><td>11.30-11.45</td><td>Presenter: HST21159 -
Senthilkumar Murugesan
Title: Enhancing the security of an organization from shadow IOT devices using Blow-fish encryption standard.</td></tr>
<tr><td>11.45-12.00</td><td>Presenter: HST21161 –
Glenn Arwin Macalinao Bristol
Title: Integrating of Voice Recognition Email Application System for Visually Impaired Person using Linear Regression Algorithm</td></tr>
<tr><td>12.00-12.15</td><td>Awarding Certificate of Presentation, Testimonial, and Post-conference information announcement</td></tr>
</table>

PROGRAM OF IHSACC 2021 &ACADEMIC PRESENTATION

Day–2 December 15, 2021			
Time (GMT+7)	**Room I** IHSACC 2021	**Time** (GMT+7)	**Room II** IHSATEC 2021
13.00-13.30	**Keynote Address** **Keynote Speaker:** **Assoc. Prof. Dr. Pakorn Priyakorn**, Director, the Halal Standard Institute of Thailand (HSIT) **Topic: Challenges and Opportunities of Halal Standards and Conformity Assessment Activities after COVID-19: The Next Normal**	14.00-15.30	**Session-4** **Topic: Information Technology and Artificial Intelligence for Halal safety** **Session chair: Prof. Dr. Faridah Hj Hassan** - Founder of iHalal Management and Science (iHALALMAS), Universiti Teknologi MARA Shahalam, Malaysia **Speaker:** **Assist. Prof. Dr. Ahmed A. Elngar**, Faculty of Computers & Artificial Intelligence, Beni-Suef University, Egypt. **Title:** Internet of Things and Artificial Intelligence: The Roadmap to Future **Prof. Dr. Jonathan A.J. Wilson DLitt** Branding Consultant, London, UK Title: Halal Humans and influence in an age of automation and robots **Assist. Prof. Dr. Pradorn Sureepong** The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand **Title:** Digital transformation in Halal Economy **Question/Answer**
13.30-14.30	**Session IV** **Topic: The New Knowledge and Wisdom in Providing Excellent Services on Halal Tourism** **Speaker: Dr. Cem Tıntın,** Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC) **Moderator: Mr. Imtiaz Muqbil,** Executive Editor, Travel Impact Newswire		
14.30-15.30	**Session V** **Topic: The Great Movement to Create New Chapter of Halal Supply Chain Standard** **Speaker: Assoc. Prof. Dr. Harlina Suzana Jaafar,** Chair of Halal Supply Chain (TC10) **Moderator: Mrs. Fakheezah Borhan**, Secretary of Halal Supply Chain (TC10)		

PROGRAM OF IHSACC 2021 & ACADEMIC PRESENTATION

<table>
<tr><th colspan="4">Day–2 December 15, 2021</th></tr>
<tr><th>Time
(GMT+7)</th><th>Room I
IHSACC 2021</th><th>Time
(GMT+7)</th><th>Room II
Academic presentation</th></tr>
<tr><td>15.30-15.45</td><td colspan="3">Poster session/ Coffee Break</td></tr>
<tr><td>15.45-16.45</td><td>Session VI
Topic: New Halal Standards on Gelatin and Food Additives
Speaker: Prof. Mian N. Riaz, Texas A&M University
Moderator: Dr. Mohammed Ali Alsheikh Wace, The Standards and Metrology Institute for Islamic Countries (SMIIC)</td><td rowspan="3">15.45-17.45</td><td rowspan="3">Academic Award Ceremony</td></tr>
<tr><td>16.45-17.45</td><td>Session VII
Topic: The significance of Creating Halal Quality Management Systems
Speaker: Ms. Keziban ULU, Chair of Halal Management Systems (TC11)
Moderator: Mr. Selçuk Bulat, Secretary of Energy Efficiency and Renewable Energy (TC4)</td></tr>
<tr><td>17.45-17.50</td><td>Summary Points on “The Challenges Mission of Halal Standardization After the Great Pandemics”
Speaker: Assoc. Prof. Dr. Pakorn Priyakorn, Director, the Halal Standard Institute of Thailand (HSIT)</td></tr>
<tr><td>17.50-18.15</td><td colspan="3">Closing Ceremony</td></tr>
<tr><td>17.50-18.15</td><td colspan="3">Closing Remark by Assoc. Prof. Dr. Winai Dahlan, Founding Director, the Halal Science Center Chulalongkorn University (HSC-CU)
-Vote of Thanks and Group photograph</td></tr>
</table>

CONFERENCE CHAIR

Associate Professor Dr. Winai Dahlan

Founding Director, The Halal Science Center,
Chulalongkorn University (HSC)

EDUCATIONS

- B.Sc. Biochemistry, Faculty of Science, Chulalongkorn University, Bangkok, Thailand, 1976 AD
- M.S. Nutrition, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok,Thailand, 1982 AD
- Ph.D. Applied Medical Biology (magna cum laude), Faculty of Medicine and Pharmacy St-Pierre
- Hospital, Université Libre de Bruxelles, Brussels, Belgium, 1989 AD

APPOINTMENTS

- Founding Director, The Halal Science Center, Chulalongkorn University (HSC)
- Vice President, The Central Islamic Council of Thailand (CICOT)
- Chairman, The Halal Standard Institute of Thailand (HSIT)
- Committee of National Reform on Social Affairs
- Committee of National Education Council

PAST EXPERIENCES

- Member, The National Reform Steering Assembly (NRSA)
- Member, the National Reform Council (NRC)
- Dean, Faculty of Allied Health Sciences, Chulalongkorn University
- Member, The National Directive Board of Food, Ministry of Public Health
- Member, The Advisory Board of Food, FDA, Ministry of Public Health
- Chairman, Subcommittee on Carbohydrates and Proteins, The National Committee of Thailand Recommended Dietary Allowances, Ministry of Public Health
- Nutrition Advisor in International Events: The 13th Asian Games, The 7th Fespic Games, The 20th World Scout Jamboree, The 24th Summer Universiade Games
- Member, The Advisory Board of Deputy Prime Minister and Ministers

SCIENTIFIC/ACADEMIC TRAININGS & VISITS

- > 300 visits and trainings in 50 countries,

PUBLICATIONS

- ~ 350 books (in Thai)
- > 3,000 pieces of documentary articles in science/technology, food/nutrition in several Thai magazines since 1989
- > 50 reviewed scientific articles published internationally/locally
- > 40 original research articles published internationally/locally,

AWARDS & HONOURS

- World Halal Day Lifetime Achievement Award 2017, London, United Kingdom by the United World Halal Development
- Listed as **"The 500 Most Influential Muslims"** of the years by the Royal Islamic Strategic Studies Centre, Jordan for 9 consecutive years of 2010-2019
- The National Award of Best Innovative Civil Services, Office of Public Sector Development Commission 2013
- The Royal Thai Decoration and Awards:
- The Bravery Medal, The Dushdi Mala. (2425 B.E.) esteemed achievement in science
- Knight Grand Cordon of the Most Noble Order of the Crown (Major General rank)
- The Chakrabarti Mala Medal (2436 B.E.)
- Best Innovation award, Halal Science & Innovation Excellence, World Halal Research Summit 2011, 2012, Kuala Lumpur, Malaysia
- Listed as **"The 500 Most Influential Muslims"** of the years by the Royal Islamic Strategic Studies Centre, Jordan for 8 consecutive years of 2010-2017
- Philippines' IDCP Recognition Award of Halal Achievement in Halal Science 2009
- Malaysia's Halal Journal Award of Best Innovation in Halal Industry 2006
- Alumnus of the Year 2009, Graduate Studies, Mahidol University, Bangkok, Thailand
- Alumnus of the Year 2005, Faculty of Science, Chulalongkorn University, Bangkok, Thailand
- Lecturer of the Year 2001, Chulalongkorn University, Bangkok, Thailand

CO-CONFERENCE CHAIR

Dr. Hendrati Dwi Mulyaningsih

Founder & Chairperson of Research Synergy Foundation

Dr. Hendrati Dwi Mulyaningsih is the chairperson and founder of Research Synergy Foundation that has shown great commitment on creating Global Network and Research Ecosystem. This GNR ecosystem has been developing since 2017 up to the present and having increasing numbers of the member up to more than 15.000 from all around the globe.

Her passion in how to create impact and co creation value among all the stake holder of RSF has made her focus on upholding integrity in the scientific process through enhancement of RSF's support-support system as like Reviewer track, Scholarvein, Research Synergy Institute and RSFPress. Thus, her work in this area has made her as the Nominee of Impactful Leadership Awards from Tallberg Foundation Sweden 2019.

As lecturer, she has been working in the University since 2008 – at present in Indonesia as assistant professor and she hold her Doctoral Science of Management graduated from School of Business and Management Institute of Technology Bandung (SBM-ITB) and she has strong interest to her research project as well as her research field in Social Entrepreneurship, Social Innovation and Knowledge Management.

As researcher, her work studies and research on this research field made her be invited as reviewer in many reputable Scopus and WOS indexed journals and also as keynote speaker in many International Conferences in Philippines, Thailand, Malaysia, Indonesia, Australia, Japan and US. She also has shown her great passion on writing her research study into some books chapter, papers and contemporary scientific articles that has already been published in Springer, Emerald, Taylor and Francis and in many reputable international journals. The terrific association between her professional experiences as researcher, lecturer, the certified Trainer & Coach combined with her wider horizon on networking in the research area made her establish the strong commitment on having global learning platform to accelerate knowledge through many workshops and research coaching in Research Synergy Institute as one of RSF's support system.

THAILAND HALAL ASSEMBLY 2021

ABSTRACT OF IHSATEC 2021; 14TH HASIB CONFERENCE

KEYNOTE SPEAKERS

Keynote Speaker: Mr. Alongkorn Pollabutra,

Chief Advisor to Minister of Agriculture and Cooperatives

Topic: The Transformation of Thailand Halal Strategies to Unlock Halal Value-Added Growth Prospects of Agricultural Products

KEYNOTE SPEAKERS

Keynote Speaker: H.E. Mr. İhsan ÖVÜT,

SMIIC Secretary General

Topic: SMIIC Strategic Vision 2030: Creating a Quality Infrastructure for Economic and Welfare Development of Member States

KEYNOTE SPEAKERS

Keynote Speaker: Assoc. Prof. Dr. Winai Dahlan,

Founding Director, Halal Science Center Chulalongkorn University

Topic: Lesson Learned from COVID-19 Vaccines to Plant-Based Food: How to Make Them All Halal?

Session-1

Halal Plant-based innovative products and ingredients for cosmetic

Session chair: Prof. Dr. Senator Nur Bahagia
Institut Teknologi Bandung (ITB), Indonesia
Email: senatornurb@yahoo.co.id

Lecturer at Department of Industrial Engineering, Institut Teknologi Bandung (ITB), Indonesia

Area of expertise:

Halal Products, Food Powder Technology/ Food Material Engineering, Powder Technology/ Size Reduction, Chemical and Process Engineering

Qualification & Education:

- Docteur Science de Gestion (Doctor in Production and Logistics System), 1981-1985
- Diplome Etude Approfondie (Master's in production management), 1980-1981.
- Universite d'Aix Marseille III, IAE- Aix-en-Provence, France
- Industrial Engineer, Industrial Engineering Department, ITB,1973-1977

Professor Senator Nur Bahagia is one of the notable Lecturer at Department of Industrial Engineering, Institut Teknologi Bandung. His expertise is in Logistics System and Industrial Optimization. He received his bachelor's degree of Industrial Engineer from Institut Teknologi Bandung. He continued his education and earned Diplome Etude Approfondie (master's in production management) and Docteur Science de Gestion (Doctor in Production and Logistics System), from Universite d'Aix Marseille III, IAE- Aix -en-Provence, France. He has worked on several prominent project all over Indonesia as a Team Leader as well as Consultant for Board Directors. Currently, He is the Member of Assessor of National Accreditation Board for Industrial Engineering Program Study, Directorate General of Higher Education (Ditjen-DIKTI), Jakarta; Head of Research Group on Industrial System and Techno Economic; Head of Center for Logistics & Supply Chain Studies (CLoCS); and Chief of Expert Team in Implementing National Logistics Blueprint, Coordinating Minister of Economic Affairs.

Exploring the emerging role of cyanobacteria in the development of high-value nutraceutical and cosmeceutical products

Dr. Simab Kanwal
Faculty of Pharmaceutical Sciences,
Chulalongkorn University, Thailand
Email: simab.kan@mahidol.ac.th

Postdoctoral Fellow at Faculty of Pharmaceutical Sciences, Chulalongkorn University, Thailand

Area of expertise:

Metabolic engineering of Cyanobacteria and Algae, Characterization of bacterial pore forming toxins, Enzymatic pathways and Genetic Manipulation of Metabolic Routes in Cyanobacteria, Discovery, isolation, purification, identification and standardization of bioactive molecules

Qualification & Education:

- Post-Doctorate., (Pharmacognosy and Pharmaceutical Botany) – Chulalongkorn University, Thailand, 2021 – 2022
- Post-Doctorate., (Molecular Biosciences/Structural Biology) – Mahidol University, Thailand, 2019 – 2021
- Post-Doctorate., (Biochemistry/Molecular Biology) – Chulalongkorn University, Bangkok, Thailand, 2014 – 2016
- Ph.D., (Biochemistry/Molecular Biology) – Chulalongkorn University, Bangkok, Thailand, 2010 – 2014,
- M.Phil., (Biochemistry/Molecular Biology) – Quaid-i-Azam University Islamabad, Pakistan, 2007 – 2009,
- M.Sc., (Biological sciences), Quaid-i-Azam University Islamabad, Pakistan, 2005 – 2007, First class.
- B.Sc., (Biology) – University of Azad Jammu & Kashmir,Pakistan, 2003 – 2005

Abstract

Plant based products are gaining a continues growing demand in vegan and halal products market. Trending health topics, celebrity brands and social media are the major platforms that drive the trends like “Green beauty routine” and “cruelty free world”,and influence the consumer’s choices toward the selection of products. Plant produced secondary metabolites are mainly the chemicals that are used in formulating the plant-based cosmeceuticals and nutraceuticals. A variety of plants have been used since decades by vegan and halal industries for product development. However, other green life forms such as marine algae and cyanobacteria are also gaining tremendous attention in cosmeceuticals and nutraceuticals.

Cyanobacteria, also known as blue-green algae, are one of the earliest prokaryotic and photosynthetic microorganisms. Cyanobacteria produce plethora of secondary metabolites such as pigments, fluorescent dyes and bioactive compounds of pharmaceutical interests that might be used as drug, in cosmeceutical or as part of health promoting food. They are mostly target of biotechnological studies, because of their ability to produce bioactive secondary metabolites and requirement of very simple nutrients as raw material for growth. Furthermore, the strains with the ability to produce important bioactive compounds could also be targeted for genetic and metabolic engineering. The unicellular cyanobacterium Synechocystis sp. PCC 6803 (hereafter Synechocystis) is the well-known and one of the most extensively studied strain. The strain has been widely studied for the production of many bioactive compounds. Recently, we did the genetic modification of Synechocystis to enhance the production of organic acids and non-protein amino acids including γ-aminobutyric acid (GABA) and δ-Aminolevulinic acid (ALA), that carry immense importance in nutraceuticals and cosmeceuticals. One of those metabolites that we are presently focusing more is GABA. Because of the beneficial functions of GABA and increasing commercial demand, various attempts have been made for chemical and biological synthesis of GABA. However biological synthesis of GABA is considered as a more promising method due to the simple catalytic reaction, cost effectiveness and environmental compatibility. An overexpressing vector was used in Synechocystis to create stable lines expressing chromosomally integrated gad, the gene encoding glutamate decarboxylase (that catalyzes glutamate to GABA) in Synechocystis. The engineered strain, GADox, had a 5-fold increase of GABA content as compared to wild type strain. It is anticipated that by employing combinatorial genetic engineering techniques, GABA yield could be improved further in Synechocystis. This work forms the basis for further development of GABA production and other secondary metabolites in the same metabolic route by employing cyanobacteria that are safe and eco-friendly green microorganisms.

Seaweeds and Herbs as Potential Halal Materials for Promoting Health

Prof. Dr. Irwandi Jaswir
Dean for Academic, Research, and Publication at INHART, the International Islamic University Malaysia (IIUM)

Area of expertise:

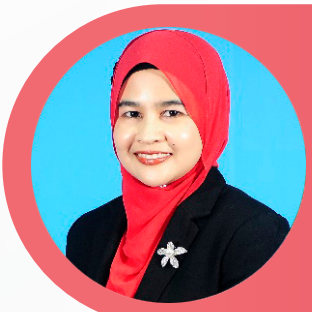
Food Chemistry and Biochemistry, Food Process Engineering, Halal Food Management.

Qualification & Education:

- Postdoctoral Fellowship in Lipid Biochemistry, National Food Research Institute (NFRI), Tsukuba, Japan, 2006-2008
- PhD in Food Chemistry and Biochemistry, Universiti Putra Malaysia (UPM), 1997-2000
- M.Sc. in Food Science and Biotechnology, Universiti Pertanian Malaysia (UPM), 1994-1996
- B.Sc. (Hons) in Food Technology and Human Nutrition. Bogor Agricultural University (IPB), Indonesia, 1989-1993

Abstract

Halal material is one of the sectors where many Muslim countries are lacking. Most of them are very dependent on other countries to supply, although they actually are rich in the natural raw materials. Natural seaweeds have potentials to be explored to become a good source of halal materials, especially for supplements or health-promoting products. Recently, fucoxanthin has been successfully extracted and purified from two species of Malaysian brown seaweeds, namely Sargassum binderi and S. duplicatum. The purity of the fucoxanthin is >99% as indicated by HPLC analysis. Fucoxanthin content, total lipid and fatty acid composition of the seaweeds showed that both samples contained a considerable amount of fucoxanthin and total lipid. Further study showed that fucoxathin can be used as antioxidants, anti-cancer, anti-diabetes, as well as anti-obesity. Apart from seaweeds, herbs are also great potentials to be developed to the industrial scales. Countries like Malaysia, Indonesia and Thailand are rich in the local herbs. During Covid-19 pandemic the role of local herbs to fight against the pandemic should be highlighted.



Halal Product Development in Plant-Based Cosmetic

Prof. Ir. Dr. Yus Aniza Yusof[1], [2],
[1] Deputy Director, Halal Products Research Institute, Universiti Putra Malaysia (UPM) 43400 Selangor, Malaysia,
[2] Department of Process and Food Engineering, Faculty of Engineering, UPM.
Email: yus.aniza@upm.edu.my

Area of expertise:

Halal Products, Food Powder Technology/ Food Material Engineering, Powder Technology/ Size Reduction, Chemical and Process Engineering

Qualification & Education:

- PhD, DIC in Chemical Engineering, Imperial College London, London, 2006
- MSc. Chemical and Process Engineering: Universiti Kebangsaan Malaysia, 2001
- B. Eng. (Hons) Chemical and Process Engineering, Universiti Kebangsaan Malaysia, 1999

Abstract

Cosmetic is a lucrative industry and is growing rapidly. Simultaneously, consumer awareness of product safety is increasing, and request for plant-based cosmetic product is rising, particularly from the impact of COVID-19 pandemic. This creates opportunities for new product lines such as hand sanitizers, hand creams, face cream, and eye care. This presentation defines halal, plant-based, vegetarian, and vegan cosmetics. Innovation and invention of cosmetics which include discussions on two classical commonly used cosmetics amongst Muslim, kohl and henna. Whenever, there is no halal certification available for any cosmetic product, Muslim consumers will choose to buy plant-based, vegetarian, or vegan cosmetics. Comparison in terms of ingredients between these cosmetic products will be discussed. Testing of cosmetics products and its practicability will be presented too. Hence, halal product development in cosmetics is important as younger Muslim integrate their lifestyle and look with Islamic law.

Keywords: cosmetic, halal, plant-based, vegan, kohl, henna

Session-2

Systematic monitoring in Halal production process

Session chair:
Assoc. Prof. Dr. Chaleeda Borompichaichartkul
Department of Food Technology, Faculty of Science, Chulalongkorn University

• Lecturer, Department of Food Technology, Faculty of Science, Chulalongkorn University, Bangkok, Thailand
• Deputy Director of Program Management Unit Competitiveness (PMUC)
• Director of Research University Network Office (RUN Office)

Area of expertise:

Drying technology, thernophysical properties of food materials, microencapsulation of bioactive compounds for higher quality foods, new technology for functional product development, functional films

Qualification & Education:

• Ph.D. University of New South Wales, Australia; 1999 – 2004
• B.Sc. (Hons) University of New South Wales, Australia; 1995 – 1999

Globalisation and fostering a true halal logistics and supply chain activity: What does it take?

Assoc. Prof. Dr. Nor Aida Binti Abdul Rahman.
Universiti Kuala Lumpur, Malaysian Institute of Aviation Technology (UniKL MIAT), Malaysia
Email: noraida@unikl.edu.my

- Associate Professor- Supply chain & Strategy, University of Kuala Lumpur IunikI · Malaysian Institute of Aviation Technology Doctor of Philosophy
- Head of Aviation Management (Technical Foundation), Universiti Kuala Lumpur, Malaysian Institute of Aviation Technology (UNIKL MIAT)

Area of expertise:

Logistics, Branding, Industry, Supplychain, Marketing

Qualification & Education:

- PhD degree in Management (Supply Chain Management), Brunel Unversity, London, UK

Abstract

Globalization and the growing demand of Halal products across the globe, together with the growing population of Muslims worldwide collectively contributing to the growth of Halal logistics services. The global halal market size was valued at USD 286.96 billion in 2019 and it is expected to expand at a compound annual growth rate (CAGR) of 8.4% from 2020 to 2027. The purchasing power of Muslim consumers and travelers has increased significantly over the past few years which results to the increase in demand of halal products and services. The concept of Halal is generally associated with food products, which relates to quality, cleanliness, health, and it complies with religious requirements. The concept of Halal product has developed in wider context including services such as Halal logistics. The rise of Halal logistics service providers is in tandem with the rise of Halal product markets across the globe. The demand for Halal products and Halal logistics providers is not coming from Islamic countries in the Middle East and Asia only, but also from the Western countries such as United states, United Kingdom, and other European countries. Halal logistics ensure that the status of Halal products remains Halal when moved from one point to another along the supply chain process. This session aims to highlight on the past, current and future developments of Halal logistics globally. This session provides comprehensive analysis on the main issue to tackle in ensuring the end-to-end Halal supply chain activities. The key issue in relation to logistics activities such as handling, transportation, warehousing, and storage; as well as cross border activities at the terminal and seaport are highlighted.

Exploration of the selective binding property of the MIP-grafted paper for Cochineal dye

Dr. Acharee Suksuwan and Dr. Kasinee Katelakha
The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand
Email : acharee.s@chula.ac.th

• Researcher at The Halal Science Center, Chulalongkorn University, Thailand

Area of expertise:
Analytical chemistry, chemical sensors, chiral separation, pharmaceutical quality control, Halal forensic science and innovation, and molecularly imprinted materials for food, agricultural, environmental, pharmaceutical applications.

Qualification & Education:
• Ph.D. (Pharmaceutical Sciences), Prince of Songkla University, Thailand
• Bachelor of Science (Chemistry) (First Class Honours), Prince of Songkla University, Thailand

Abstract

Molecular imprinted polymers (MIPs) are a great technique to obtain specialized substrate recognition sites into polymers. This technology allows for the creation of materials that have a particular recognition site for the target compounds. This approach includes copolymerizing a functional monomer and a cross-linking monomer in a porogen solvent that interacts with the template through cleavable covalent bonds or non-covalent interaction. The template is subsequently extracted, leaving molecular cavities within the polymer matrix with the corresponding binding sites that are complementary to the templates in size, shape, and chemical functionality. MIPs offer a high degree of stability and pre-designed selectivity, as well as being simple to prepare and store.

The application of MIPs in the Halal industry will be discussed in this paper. The MIP having specific imprint to carminic acid, an insect-derived pigment, was created in this work by using the co-monomers and cross-linker, including methacrylic acid and 4-vinylpyridine and ethylene glycol dimethacrylate, respectively. The imprinted surface particles were examined by using a scanning electron microscope (SEM). The SEM result showed the rough surface and porosity of the synthesized MIP particles, representing the carminic acid binding site. When compared to non-imprinted polymers, the MIP particles have an excellent selectivity to the carminic acid target, as demonstrated by the imprinted factor of 1.94. With a ratio of 12.4, high affinity is greater than low affinity, with K_a values of 1.24×10^3 mM and 0.10×10^3 mM, respectively, according to the Scatchard data. Therefore, the created MIPs in this work have the potential to be used in a variety of applications, including extraction and pre-concentration.

Creation of Innovative Monitoring Tools to Leverage a Quality Assurance System for Halal Food Industries in Thailand.

Dr. Anat Denyingyhot
The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand
Email: arnat.hsc@gmail.com

• Assistant Director (Research and Innovation), The Halal Science Center Chulalongkorn University (HSC-CU), Thailand
• Assistant Director (Nakhon Nayok office), The Halal Science Center Chulalongkorn University
• Head of Scientific Service Affairs), The Halal Science Center Chulalongkorn University

Area of expertise:
Food Safety and Food Quality Management, Molecular Biology, Halal Forensic Science, Halal Innovation

Qualification & Education:
• Ph.D. (Biotechnology), Faculty of Science, Chulalongkorn University, 2020
• M.Sc. (Food Technology), Faculty of Science, Chulalongkorn University, 2016
• B.Sc. (Food Science and Technology), Faculty of Science, Thammasat University, 2009

Abstract

Global Halal food market has been continuously expanded with market value and expected to reach up to USD 739.59 billion in the year 2025. Thailand has a high potential for halal food production to serve the global market. Unfortunately, one of major problems in halal food production is the prohibited material contamination and/or adulteration, especially the contamination by non-halal animals, which directly affects spiritual and moral health of Muslims. To become a major Halal food exporter, building up confidence for Thailand in the world stage by having a tool to inspect halal food quality is thus crucial. Therefore, this study aimed to develop powerful DNA techniques for serving in laboratory and on-site for detection of 5 non-halal animals possibly to be contaminated in halal foods, including pigs, dogs, cats, rats, and monkeys. High resolution melting analysis (HRMA) and nucleic acid lateral flow assay (DNA strip) have been developed to use in laboratory and on-site purpose, respectively. To validate these two innovative techniques, 375 commercial food samples were applied and verified. The results showed that 18 samples were contaminated with pig DNA but none of contamination of other non-halal animals' DNA was found. The contaminated samples could be traced and identified the causes of contamination which occur due to misunderstood or intended to reduce cost of production. These demonstrated that the developed techniques provided an efficient tool for quality and assurance control. By using these techniques, halal food producers and consumers can ensure that there was no non-halal animal contamination in raw materials and food products. These innovative techniques can be employed as an important tool for sample screening step to support halal certification, especially in the food exporting country like Thailand.

Key words: Halal food, non-halal animal, Multiplex-HRMA, DNA strip, Quality Assurance

Session-3

Topic: Start up and Young Entrepreneurship for Future Thailand's Economy

Session chair:
Prof. Dr. Faridah Hj Hassan

Founder of iHalal Management and Science (iHALALMAS), Universiti Teknologi MARA Shahalam, Malaysia

Area of expertise:

Marketing and Strategic Management, Commercialization, Domestic and Global Halal Marketing, Branding: Marketing National Corridor, Tourism, and Islamic Banking

Qualification & Education:

Ph.D. in marketing and strategic management

Professor Dr Faridah Hj Hassan from Department of Ranking at UiTM Global, Universiti Teknologi MARA Malaysia is currently the Vice President of World Academy of Islamic Management, Chartered Institute of Marketing and MACFEA. She was the founder of Halal Management and Science HALALMAS, Director of Institute of Business Excellence and a former Dean Faculty of Business Management. Her works involve in numerous international research consultancy, training, publication, and she is the chief and associate editor for 2 SCOPUS journals MAJCAFE and emerald JIMA. She is a regular invited speaker in various international conferences in halal, marketing, and strategic business management.

Mr. Pongpol Yodmuangcharoen

CCO and Co-Founder of Tough & Tumble

Area of expertise:

Cutting-edge Business Ideation, Strongfully steering Branding, Design Thinking Approach • User Flows/ Wireframing/Content Strategy, Social Media Management, Film & Video Production, Product Design and Development

Qualification & Education:

• Master of Professional Study Design Management, Pratt Institute (New York), 2012-2014

• Bachelor of Industrial Science, Faculty of Architect, Chulalongkorn University, 2002-2007

Session-3

Topic: Start up and Young Entrepreneurship for Future Thailand's Economy

Assist. Prof. Dr. Sathaporn Ngamukote

Co-Founder of Tann:D

- Co-Founder of Tann:D
- Lecturer, Department of Nutrition and Dietetics, Faculty of Allied Health Sciences, Chulalongkorn University
- Director's Consultant of The Halal Science Center, Chulalongkorn University
- Assistant Dean, Graduate School, Chulalongkorn University

Area of expertise:

Health product development, Functional Food, Herbal medicine and chronic diseases, Nutritional interventions for the prevention of oxidative stress and diabetes

Qualification & Education:

- PhD (Biomedical Sciences) Graduate School. Chulalongkorn University, 2009
- BSc (Medical Technology), 2nd Class, Faculty of Allied Health Sciences, Chulalongkorn University, 2002

Mr. Fuadi Pitsuwan

Co-Founder of Beanspire Coffee

- Co-Founder of Beanspire Coffee
- A developer and an exporter of specialty grade Thai coffee
- Investor in two coffee roasters in America, Paradise Coffee Roasters and Barismo
- Pre-Doctoral Fellow at Chiang Mai University's School of Public Policy
- Doctor of Philosophy Candidate, Department of Politics and International Relations, University of Oxford

Area of expertise:

Coffee Business, international security issues in the Asia-Pacific region

Qualification & Education:

- Master of Public Policy, Harvard University, John F. Kennedy School of Government, 2011 - 2013 (Public Service Fellow (full scholarship))
- Bachelor of Science in Foreign Service, Georgetown University, 2004 - 2008

Session-4

Topic: Information Technology and Artificial Intelligence for Halal safety

Session chair:
Prof. Dr. Faridah Hj Hassan

Founder of iHalal Management and Science (iHALALMAS), Universiti Teknologi MARA Shahalam, Malaysia

Area of expertise:

Marketing and Strategic Management, Commercialization, Domestic and Global Halal Marketing, Branding: Marketing National Corridor, Tourism, and Islamic Banking

Qualification & Education:

Ph.D. in marketing and strategic management

Professor Dr Faridah Hj Hassan from Department of Ranking at UiTM Global, Universiti Teknologi MARA Malaysia is currently the Vice President of World Academy of Islamic Management, Chartered Institute of Marketing and MACFEA. She was the founder of Halal Management and Science HALALMAS, Director of Institute of Business Excellence and a former Dean Faculty of Business Management. Her works involve in numerous international research consultancy, training, publication, and she is the chief and associate editor for 2 SCOPUS journals MAJCAFE and emerald JIMA. She is a regular invited speaker in various international conferences in halal, marketing, and strategic business management.

Assist. Prof. Dr. Ahmed A. Elngar

Faculty of Computers & Artificial Intelligence, Beni-Suef University, Egypt.

Title: Internet of Things and Artificial Intelligence: The Roadmap to Future

- Assistant Professor of Computer Science, Faculty of Computers & Artificial Intelligence, Beni-Suef University, Egypt.
- Founder and Head of Scientific Innovation Research Group (SIRG)
- Director of Technological and Informatics Studies Center (TISC),
- Director of the University portal,
- Deputy Director of the International Ranking Office, Beni Suef University
- Managing Editor of Journal of Cybersecurity and Information Management (JCIM)

Area of expertise:

Internet of Things (IoT), Network Security, Intrusion Detection, Machine Learning, Data Mining, Artificial Intelligence. Big Data, Authentication, Cryptology, Healthcare Systems, Automation Systems

Experiences:

- Editor and Reviewer of many international journals around the world
- Organizing 250 International Conference and workshops

Session-4

Topic: Information Technology and Artificial Intelligence for Halal safety

Prof. Dr. Jonathan A.J. Wilson DLitt

Branding Consultant, London, UK

Title: Halal Humans and influence in an age of automation and robots

Founder partner Dragonfly Black,Branding Consultant, London, UK

Area of expertise:

specialising the ABCDs of Business and Culture: Advertising, Branding, Communications, and Digital.

Experiences:

• Published over 200 pieces of work, spoken at over 100 conferences across the globe

• Editor-in-Chief of the Journal of Islamic Marketing author of the book, Halal Branding

His second doctorate focusses on Halal consumption patterns.

Assist. Prof. Dr. Pradorn Sureepong

The Halal Science Center,
Chulalongkorn University (HSC-CU), Thailand

Title: Digital transformation in Halal Economy

Assistant Director, HSCCU, Thailand & Associate Dean on Research and Innovations at College of Arts, Media, and Technology at Chiangmai University

Area of expertise:

Media and Technology, Digital platform, Marketing, Mobile Computing, Business Application

Qualification & Education:

PhD, Dual Degree Program at Université Lumière Lyon 2, France and Chiang Mai University, Thailand

THAILAND HALAL ASSEMBLY 2021

ABSTRACT OF IHSATEC 2021 ACADEMIC PRESENTATION

SESSION CHAIRS

Dr. Sheryl H. Ramirez, RN, MAN, LPT, Ph.D.
Universidad de Manila, Phillipines

Dr. Sheryl H. Ramirez is a Registered Nurse and a Licensed Professional Teacher from the Philippines with advanced degrees in Nursing from the University of the Philippines and a Ph. D in Educational Policy and Administration. Her career evolved from clinical practice as an ICU Nurse with US RN recognition as a 'Magnet Nurse' by the American Nurses Credentialing Center to teaching practice as Nursing Faculty and Professor at the Graduate School of Education at Universidad De Manila where she is currently the Research Director.

Her research areas of interest are innovative pedagogy, resilience, and transformation across health and education to respond to the global pandemic challenges. A researcher, a research collaborator, and a reviewer of the International Journal of Africa Nursing Sciences published by Elsevier with previous works on Emotional Quotient and Leadership, Organizational Climate, Organizational Learning, and Research Efficacy of Teachers.

SESSION CHAIRS

Dr. Prameshwara Anggahegari
Institut Teknologi Bandung, Indonesia

Wara, as Prameshwara Anggahegari is known, is a lecturer in the School of Business and Management. She holds her Doctoral of Philosophy from Institut Teknologi Bandung, Indonesia. She teaches courses in social entrepreneurship, community project management, corporate social responsibility, and environmental management systems, all of which are closely related to her research interests in triple bottom line and blended values. She is also the Community Engagement Specialist at teras Hijau Project, an empowerment movement located in Indonesia. This movement attempts to decrease food insecurity in Bandung by promoting urban farming, which is driven by low-income housewives living in high-density areas. She also participates in numerous government initiatives as a member of the Social Expert Team. Under the Research Synergy Foundation, Wara is also the director of Reviewer Track, a hub for empowering other academicians and reviewers all around the world. Her current interest is about gender, social entrepreneurship, and empowerment.

SESSION CHAIRS

Dr. Oktoviano Gandhi
National University of Singapore

A prolific academic, a hands-on engineer, and a tenacious entrepreneur, Oktoviano Gandhi is the go-to person for issues related to Solar Energy and Power System.

On the research front, Okto has worked on the engineering aspects of solar cells and modules, all the way to analysing policies' impact on energy intensity. His scientific works have resulted in more than twenty international publications. Okto has also held positions in many top universities across the world, namely Yonsei University in South Korea, University of Sao Paulo in Brazil, Tsinghua University in China, and National University of Singapore in Singapore.

Okto is the editor of **"Sustainable Energy Solution for Remote Areas in the Tropics"**, a book published by Springer Nature under the series Green Energy and Technology.

Through Alva Energi, which he co-founded, Okto is channeling his expertise in solar energy, rural electrification, electricity grid planning, and energy policy to promote renewable energy development in Indonesia and Southeast Asia. His works and achievements have been recognised internationally: he was selected to be part of Global Young Scientists Summit, Leader of Tomorrow at St. Gallen Symposium, BP Advancing Energy Scholar, and One Young World Ambassador. Okto was featured in Vanity Fair 2020 Global Goals List, representing SDG7: Ensure access to affordable, reliable, sustainable, and modern energy for all.

Living in a permanent beta, Okto is always looking for opportunities to grow his expertise and impact both within and outside the Power and Energy industry.

SESSION CHAIRS

Julenah binti AG NUDDIN, Ph.D.
Universiti Teknologi MARA, Malaysia

Julenah binti AG NUDDIN completed her PhD in Chemistry (Medicinal Plant Chemistry) from Universiti Teknologi MARA in 2015 and MSc in Chemistry (Natural Products Chemistry) from Universiti Malaysia Sabah in 2005. She has been teaching since 1996 and currently, she is a Senior Lecturer at Faculty of Applied Sciences, Universiti Teknologi MARA Sabah Branch. A registered Chemist since 2009 and Committee Member of Malaysian Institute of Chemists (Sabah & Federal Territory of Labuan), her focus is in analytical and organic chemistry thus, actively pursuing her research interests in medicinal and hyperaccumulating plants. In these endeavours, she is currently representing UiTM in Agromining World Network based in France while leading the SIG TaNi. Additionally, she has formed a research interest group known as RIG CRBio for their work at Crocker Range Biosphere Reserve with Sabah Parks as part of the commitment as Committee Member for MAB UNESCO programme in Sabah. Currently, she sits as a Member of Sabah Biodiversity Council. These activities reflect her belief that Borneo has much to offer than meets the eye. In the duration of her career, she has been awarded with Anugerah Khidmat Cemerlang (2005 & 2006), Best Innovation (IID UiTM Sabah 2009, 2010), Silver Medal in (IID UiTM 2010) and Best Innovation (IID UiTM Sabah 2013) with her faculty members. She is married with six children.

SESSION CHAIRS

Setyowati Triastuti Utami, Ph.D.
Univeristas Gadjah Mada, Indonesia

Setyowati Triastuti Utami is a lecturer at Faculty of Pharmacy of Universitas Gadjah Mada, Yogyakarta, Indonesia. At the Department of Pharmaceutical Chemistry of Universitas Gadjah Mada, She researches and implementing her knowledge on data science and molecular microbiology. She is also active as a member of Research Synergy Foundation (RSF) where she is enjoying learning and implementing her knowledge of scientific writing. She graduated from Tokyo Institute of Technology, Japan, with master and doctoral degree majoring in molecular biology. Prior to joining Universitas Gadjah Mada, Setyowati was working in Metabologenomics, inc performing gut microbiota design and data science. Moreover, Currently she is the Managing Editor of Journal Health and Biomedical Science (JHBS).

JUDGING COMMITTEES

Prof. Dr. Mosaad Attia Abdel-Wahhab
Department of Food Toxicology & Safety,
National Research Center, Egypt

Dr. Mosaad Attia Abdel-Wahhab is a professor at Department of Food Toxicology & Contaminants, National Research Center, Egypt. He got his Ph.D in Toxicology from Texas A & M University, Texas, USA. He is the president of Egyptian Society of Science and Halal Products and a member in several professional organizations. He acted as a visiting Professor in several universities at several countries. He conducted more than 25 research projects in the area of food safety, food contaminants; nanotechnology and natural products funded by National and International agencies and got 6 patents. He published more than 220 research articles in the International Journals and several book chapters. He supervised more than 35 MSc and PhD thesis and participated (till now) in 45 international conferences as invited or keynote speaker. He is a co-editor for 20 International Journals and was honored and awarded several prizes from many International and National agencies.

JUDGING COMMITTEES

Prof. Dr. Nazimah Hamid
Auckland University of Technology,
New Zealand

Nazimah Hamid is a Professor of Food Science at Auckland University of Technology. Her research encompasses how processing techniques can influence physical, chemical, and flavour qualities of food. Her expertise in sensory and flavour science uses a combination of sensory and instrumental flavour analysis to examine and predict the relationships between food composition, sensory perception, and flavour of a variety of processed and minimally processed foods. She has worked with a variety of foods - from sea urchin roe, black foot abalone, clams, apricots, and cherries in New Zealand to 'Durian' (commonly referred to as the King of Fruits) and jackfruit in Malaysia, and earlier raspberries in Scotland. She also researches the role of auditory cues on flavour and the consumer perception of food.

JUDGING COMMITTEES

Prof. Dr. Abdelaziz Bouras
College of Engineering, Qatar

Professor A. Bouras has been conferred the HONORIS-CAUSA PhD in ICT and Knowledge Management by Her Royal Highness Princess Maha Chakri Sirindorn of Thailand in 2011.

He is currently the Director of the Research Support Office of Qatar University. He is also Professor in Computer Science and the current Chair of the IFIP (International Federation of Information Processing) working group 5.1 on ICT for lifecycle management. Dr. Bouras was the holder of the ICT-Qatar Ministry Chair position and has been working at the Digital Incubation Center of the Ministry until Sept. 2016. Prior to that he was the Deputy Director of the DISP Research Laboratory at University of Lyon - France, and the Manager of the Innovation and Technology Transfer Center of the university. He coordinated dozens of international projects in Europe and in the Middle East and helped incubating Start-ups in both France and Qatar. His current research interests deal with Software Lifecycle Management and Information Systems, including Information Security and Blockchain for Supply Chains.

JUDGING COMMITTEES

Prof. Dr. Faridah Hj Hassan
Founder of iHalal Management and Science (iHALALMAS), Universiti Teknologi MARA Shahalam, Malaysia

Professor Dr Faridah Hj Hassan from Department of Ranking at UiTM Global, Universiti Teknologi MARA Malaysia is currently the Vice President of World Academy of Islamic Management, Chartered Institute of Marketing and MACFEA. She was the founder of Halal Management and Science HALALMAS, Director of Institute of Business Excellence and a former Dean Faculty of Business Management. Her works involve in numerous international research consultancy, training, publication and she is the chief and associate editor for 2 SCOPUS journals MAJCAFE and emerald JIMA. She is a regular invited speaker in various international conferences in halal, marketing and strategic business management.

JUDGING COMMITTEES

Asst. Prof. Dr. Pradorn Sureephong
Assistant Director of the Halal Science Center, Chulalongkorn University, Thailand
Associate Dean on Research and Innovations at College of Arts, Media, and Technology at Chiangmai University

Dr. Pradorn Sureepong is appointed as Assistant Director, The Halal Science Center Chulalongkorn University, Thailand.

He received his Bachelor of Engineering (Computer Engineering), from Faculty of Engineering, Chiang Mai University, Thailand and pursued to another level and received his Master of Economics from Faculty of Economic, Chiang Mai University, Thailand.

He received his PhD for Dual Degree Program from Universit Lumire Lyon 2, France and Chiang Mai University, Thailand in 209.

He has published many academic articles and remarkable writings

JUDGING COMMITTEES

Dr. Pakpum Somboon
Faculty of Engineering,
Chulalongkorn University, Thailand

Dr. Pakpum Somboon is one of the prominent lecturers from Department of Electrical Engineering, University of Chulalongkorn, Thailand.

He received his B.Sc. from Faculty of Engineering, Chulalongkorn University and continued his education and gained his M.Sc. from the same university.

In 2007, he received his PhD. From Tokyo Institute of Technology.

His area of expertise is on Biosensors, Medical instrumentation, and electronic nose.

THAILAND HALAL ASSEMBLY 2021

TRACK:
ARTIFICIAL INTELLIGENCE

Ensure The Proper Wearing of Face Masks Using Machine Learning To Fight Covid-19 Virus

Loremelo Juayang Catindoy[1]
[1]*Taguig City University, Philippine*

Abstract

In this pandemic time, wearing face masks is mandatory to all because of the possibility that a person can get COVID-19 virus through their mouth, nose, or eyes, which could possibly happen when a person has a direct or close contact to a person with that virus. But, despite the strict implementation, some people disregard the proper wearing of face masks and unaware the risks of possible virus transmission for such negligence. In this paper, it will demonstrate how a Convolutional Neural Network (CNN) can detect if a person is wearing a face mask or not and the additional parameter to support to detect if the face mask is properly worn by a person by considering the facial landmarks thru face recognition using Histogram of Oriented Gradients (HOG) feature descriptor with a linear SVM machine learning algorithm. Two (2) processes are involved in proper wearing of face masks detection. It needs to pass in Face Mask Detection to proceed to the next process which is the Face detection wherein the result of checking should return false to confirm the proper wearing of the face mask of a person.

Keywords: *Convolutional Neural Network (CNN), Histogram of Oriented Gradients (HOG) and SVM machine learning algorithm*

The Development of A Cloud-Based University Research Repository Software Using A Configurable Subscription Model

Reynaldo Guinto Alvez[1]
[1]*Taguig City University, Philippine*

Abstract

With more research that are added every year of every school calendar there is no doubt it becomes a file or stack of research hardbound resides on the library. These researches should not only settle on the shelves, making them electronically available as references, or to be cited are the ones it truly deserves. This paper emphasizes the need of a cloud-based research repository to be implemented in every university that can be utilized to serve its purpose. This research repository is based on an online publication and subscription model. Online publication provides reading sources via internet in which is accessible and more convenient to most people. The repository will also adapt the concept of configurability as the users may have their own preferences with regards on how they publish or subscribe a paper. These would give them more options on deciding how they would publish and or avail paper references. Research which are within the repository that will be referenced, cited, or downloaded has corresponding renumeration based on the approval of the University. In this way more researchers will continue to provide more scholarly output to be published and to gain more citing, downloads and eventually more renumerations. The repository has the potential to expand as more researchers will be turned its service and would be beneficial to stakeholders. The respondents on this paper shows the acceptability of the process making more likely to work in any educational institution. Moreover, as time progress, researchers and organizations would avail to use the software in accordance with their needs as well as the preferences of its user with the configurability of the software, thus providing a continuous educational-business process to all stakeholders. And with the current situation of the global pandemic heterogenous access to resources are all being sought.

Keywords: *Online Publishing, Subscription Model, Research Repository, Configurability*

Capabilities of Computer Algorithm like Human Brain Utilizing Artificial Neural Networks: A Task (Technology Advancement of Soft-skills and Knowledge)

Jesus Nava Abalo[1]

[1]*Taguig City University, Philippine*

Abstract

Computer algorithms seemingly work via input and output. To generate an output, we take input and apply each step of the algorithms to that information. The input leads to advance and questions that need handling in order. The generated result after each section of the flowchart is complete is called output. The Central Processing Unit is known as the brain of the computer. It receives data input, executes instructions, and processes information and, we can think of a CPU as the decision-maker as the human brain can do. Human brains interpret the context of real-world situations in a way that computers cannot make it. To address the issue, Neural Networks have been developing. They are a set of Algorithms modeled virtually after the human brain that contrived to recognize patterns. They interpret sensory neurons through the perception of a machine, labeling, or creating raw data. Inspired by the development of the brain, ANN is the answer to making communications more human-like and letting ANN reason out like humans. A computer architecture in which several processors connect between neurons in a human brain, which can learn by processing one thing in another until something succeeds. The interconnected cells of the brain behave like Artificial Neural Networks developed by computer programming.

Keywords: *Artificial Neural Network, Algorithm, Central Processing, Artificial Intelligence, Machine Learning*

The Model Development for Early Lung Cancer Analysis by Using Image Processing and Neural Network

Sirirat Promduang[1], Pongpisit Wuttidittachotti[1]
[1]*King Mongkut's University of Technology North Bangkok, Thailand*

Abstract

Lung cancer has a high mortality rate to provide effective screening of patients. This model developed early lung cancer analysis using CXR images, Enhancement with median filter, entered image processing by active contour segmentation, edge detection (LoG) and feature extraction with Shape and GLCM in combine with MLP and SVM classifiers, where MLP provides accuracy 99%.

Keywords: *Image Processing, Lung Cancer, Neural Network, Support Vector Machine*

Sms-based information dissemination system with android application controller for Taguig City University

Edmar Garcia Tan[1]

[1]*Taguig City University, Philippine*

Abstract

This study aimed to determine the accessibility of information in Taguig City University in terms of Class Suspensions, Schedule of Enrollment, Meetings and Seminars, Programs/Events, New School Policies and Grade Inquiry. It also focused on the development of SMS-Based Information Dissemination System with Android Application Controller and intended to determine the evaluation of the students, faculty members, non-teaching personnel and IT practitioners on the developed SMS-Based Information Dissemination System with Android Application Controller using the criteria based on ISO 25010 Software Quality Standards. A total of 307 students, 38 faculty members, 38 non-teaching personnel and 20 IT practitioners from Taguig City University participated in the study. In order for the researcher to develop the SMS-Based Information Dissemination System with Android Application Controller, the design covers the model used in the development of the application that is called the Waterfall Model. The results revealed that the level of accessibility of information at Taguig City University as perceived by the respondents was "Accessible". It was also found out that the evaluation of the respondents on the proposed SMS-Based Information Dissemination System with Android Application Controller was "Very Satisfactory". The results of one-way ANOVAs revealed that there were no significant differences in the evaluation of SMS-Based Information Dissemination System with Android Application Controller between students, faculty, and non-teaching personnel. Lastly, the enhancements that were suggested by the respondents include Improve Graphical User Interface, Security Features, Reports Generation and Develop Android Application for Students.

Keywords: *SMS, Information Dissemination, Autoreply, Android, Text blast*

THAILAND HALAL ASSEMBLY 2021

TRACK:
FOOD SAFETY

Simultaneous identification of four meat species (cattle, chicken, fish, and pig) using next generation sequencing (NGS)

Sunainee Mahama[1], Hasam Chebako[1], Sukrit Sirikwanpong[1,2], Pornpimol Mahamad[1], Najwa Yanya Santiworakul[1], Acharee Suksuwan[1], Winai Dahlan[1], Vanida Nopponpunth[1,3]

[1]*The Halal Science Center Chulalongkorn University,*

[2] *Department of Nutrition and Dietetics, Faculty of Allied Health Sciences, Chulalongkorn University,*

[3] *Department of Clinical Chemistry, Faculty of Allied Health Sciences, Chulalongkorn University*

Abstract

Meat adulteration has become a serious problem in global which directly affects to food consumers and producers. Therefore, it requires a tool to authenticate meat species to ensure safety of food products. Next generation sequencing (NGS) coupled with ribosomal RNA mitochondrial DNA gene can be used to analyze mixture of meat species in multiple meat samples. Therefore, this study aims to utilize NGS coupled with rRNA gene to identify 4 meat species (cattle, chicken, fish, and pig). Three primer sets (12S-Ki, 16S-KH, and 16S-Ki) were used to amplify DNA from the four meat species. All primer sets could be successfully amplified DNA fragments which corresponded to their size expectation. 16S-KH showed better detection effect in all species comparing with others. While the 12S-Ki and 16S-Ki could not be used to amplify in fish and chicken species. This may occur due to mismatches between sequences of primers and annealed regions of these species. Library construction of all PCR amplicons were prepared and sequenced by NGS. Amplicons amplified by 12S-Ki (fish) and 16SKi (chicken and fish) could not be mapped to the database because no PCR amplicons could not be amplified. NGS coupled with 16S-KH was then evaluated for precision test. The experimental precision was directly investigated comparing the results obtained from libraries that derives from DNA of four meat species which separately amplified for 3 different runs. As expected, the number and proportion of mapped reads between three different runs were also concordant. The percentage of mapped reads ranged from 14.04% to 31.04%, 15.14% to 31.98%, and 14.21% to 33.05% (1st, 2nd, and 3rd run, respectively). This demonstrated that NGS coupled with rRNA mtDNA gene could be reliably implemented as a routine testing. This developed technique can be applied to control and monitor meat adulterations in halal meat production and industry.

Keywords: *Next Generation Sequencing, Ion Torrent PGM, Halal species, meat species identification, ribosomal RNA*

Analysis of family food cost during lockdown based on Activity Based Costing and food frequency Questionnaire

Edi Supardi[1], Noneng Nurjanah[1]
[1]*Politeknik Pos Indonesia*

Abstract

This research is intended to find out the type and amount of food needs of resident in Batununggal Village, Bandung City. and get a mathematical model to forecase the cost of food security if the lockdown policy scenario is implemented. The emergence of debate over the effectiveness and efficiency of vaccination versus lockdown policies is currently attracting the attention of authors. The authors believes that the lockdown policy will be effective to be applied in the future. Urban areas were subjected to this study due to the vulnerability of food availability in cities if pandemic condition occurs where food supplies from the provider (rural) area disrupted. In this study, the author used exploratory methods, activity based costing and food frequency questionnaire which aims to dig up information about the amount of food staples for 100 people from batununggal village in Bandung, as sample of research. The result of the study found food costs per person amounted to IDR 219,848 for 14 days. with the following mathematical equation food cost when lockdown.

Keywords: *Food Cost, Lockdown, ABC, Food Frequency Questionnaire*

Feasibility Study of Slaughterhouses as A Source of Halal Meat Processed Meat-Based Food In Bandung City

Ayuni Adawiyah[1], Neneng Windayani[1]

[1] *Uin Sunan Gunung Djati Bandung, Indonesia*

Abstract

The good food for consuming by human is the food halal and thayyib. Halal is free from haram raw material and thayyib is free from chemical or biological contamination etc. Thayyib food in other words as safe food based on food safety standards. Meanwhile, meat-based food, food safety standards start from the slaughterhouse. The slaughterhouse that registered as a large government slaughterhouse and a center for slaughtering livestock to be applied to the community is one of the benchmarks for standardizing meat safety. The purpose of this study was to determine the feasibility of slaughterhouses in the city of Bandung. The results of the study show that there are two slaughterhouses that are registered as government slaughterhouses and are a source of halal meat and have national standards. This study uses a type of field observation, research conducted in the real life. The conclusion Government Slaughterhouses, namely Cirangrang and Ciroyom slaughterhouses are clarified as proper slaughterhouses and have operating permits from the local government. The enumerators and slaughterhouse employees have received training and are regularly monitored by the local government. So that the slaughterhouse can be assumed as a slaughterhouse that has appropriate standardization based on food safety. Slaughterhouse has stable sales and has consumers who become regular customers. Several meat brokers and traders in wholesale and traditional markets source their meat for sale from these abattoirs. So based on the results of observations, the source of food used by snack producers circulating in the city of Bandung should not be contaminated by pork and appropriate based on the source of the meat.

Keywords: *Halal food, food safety, meat-base food, slaughterhouse*

THAILAND HALAL ASSEMBLY 2021

TRACK:
BIOTECHNOLOGY

Response Surface Methodology based Optimization of Microbial Amylase Production using Banana Peels as Carbon Source

Moohamad Ropaning Sulong[1], Hasdianty Abdullah[2], Hazirah Hamid[2], Marini Ibrahim[2]

[1]*Institut Halal Antarabangsa (insha), Universiti Selangor (unisel), Malaysia,*

[2] *Universiti Selangor, Malaysia*

Abstract

mylase is an enzyme that catalyse the hydrolysis of polysaccharides such as starch into small units include disaccharides and monosaccharides such as glucose. It is found diversly in different sources including animals, plants, vegetables, fruits as well as microbes. Amylases of microbial origin are favourable due many advantages. Besides, microbial enzymes production is more economical comparing to other sources. Optimization of enzyme production is quite challenging especially when it is conducted conventionally due to many parameters involved. Hence, applying Response Surface Methodology facilitates to design the experiment and optimize the production effectively. In this study, three independent variables namely (A) Temperature, (B) pH, and (C) Banana peels concentration were selected for the optimization of the amylase production. Result of the study indicated that the run-6 has the highest activity of amylase at 4.10 U/mL, with the optimum temperature at 60°C, pH 6 and 25% (w/v) of banana peels concentration. Further optimization of the amylase production including recombinant gene expression, different expression hosts and purification of the crude amylase are highly recommended.

Keywords: *Amylase, RSM, Banana Peels.*

Duplex droplet digital PCR assay for bovine and porcine quantification in gelatin capsules

Pornpimol Mahamad[1], Saveeyah Kahong[1], Winai Dahlan[1], Sukanya So-audon[1], Wila Munaowaroh[1], Anat Denyingyhot[1], Vanida Nopponpunth[1], Monruedee Khemtham[1]

[1] *The Halal Science Center, Chulalongkorn University, Thailand*

Abstract

Gelatin is a very complex processed food made by partially hydrolyzed collagen, mostly derived from pigs and cattle. It is been used as the main ingredient in gelatin capsule production for dietary supplements and pharmaceutical products. Detection of bovine and porcine species origin in gelatin-based products is required for commercial purposes because species fraud and product mislabeling can negatively affect consumers with health, ethical, and religious concerns. However, due to the complications of gelatin-based production, DNA degradation may occur, leading to low yields of DNA extraction. For meat species identification, quantitative real-time polymerase chain reaction (qPCR) is currently being performed. Nonetheless, its use requires a series of the standard curve to compare with the Ct values of an unknown concentration. Also, it is challenging for practical low-DNA product application. A duplex droplet digital PCR (duplex ddPCR) assay based on double-quenched probe, known as a cost-effective, highly specific, sensitive, precise, and reliable method was developed. The study aimed to provide simultaneous absolute quantification and detection of porcine and bovine DNA in gelatin capsules of dietary supplements and pharmaceutical products. The findings discovered that the limit of detection (LOD) was identified as low as 0.001 ng/µl for porcine and 0.01 ng/µl for bovine from a DNA mixture of gelatin. Specificity was confirmed with 12 different species. Also, fifty-five commercial supplementary and pharmaceutical capsules were used to validate the assay. The duplex ddPCR assay can be applied for routine analysis in bovine and porcine adulteration detection in gelatin capsules.

Keywords: *ddPCR, Porcine, Bovine, Gelatin, Capsule*

Potentials of Microbes as Bio-Control Agents

Isah Umar Usman[1], Mohammed Abdullahi[2]

[1] *Assistant Lecturer at Federal Polytechnic Bida, Niger State Nigeria, Biological Science Department,*

[2] *Federal Polytechnic Bida, Biological Science Department, Nigeria*

Abstract

It obviously cleared scientific findings have shown that global food production is being affected by pests organisms' attack, which otherwise would have been doubled if no disease management strategies are applied. Also, it is obvious that large scale application of chemical pesticides by our local farmers has a deleterious effect on the health of human beings and also results to environmental pollution. Therefore, our research would proffer suggestions as to how the farmers and the authorities both at National and International level can make use of bio control agents to control pests, in order to improve Agricultural production and to reduce adverse effects of chemical pesticides to man and his environment. The method adopted for this work was using content analysis. Using different search strategies, we searched for published articles to review literatures of some other authors in the field of bio control agents to trace effects chemical pesticides in controlling pests. The search terms include but not only limited to the following search terms: What are the Potential Of Bio control Agents In Rice Disease, What are the advantages of bio pesticides over other inorganic chemical compounds used by farmers as pesticides etc. Lastly References in the identified articles were reviewed to draw conclusion that the used of some bio control agents against pests affecting rice production is very effective.

Keywords: *Bio pesticides, Control agent, Food, Microbes*

THAILAND HALAL ASSEMBLY 2021

TRACK:
FOOD SCIENCE

The Chemical Composition, Microbiology and Micronutrients Changes of Fresh Barracuda Fish and Smoked Barracuda Fish using Different Smoking Methods

Fronthea Swastawati[1], Putut Har Riyadi[2], Retno Ayu Kurniasih[2], Aninditya Artina Setiaputri[3], Defita Faridlotus Sholihah[2]

[1] *Universitas Diponegoro, Indonesia,*

[2]*Faculty Of Fisheries And Marine Science, Diponegoro University, Indonesia*

[3]*Faculty Of Fisheries And Marine Science, Ipb University Indonesia*

Abstract

Fish play an important role in human nutrition and ensure about 20% of protein intake for one-third of the world's population, especially in developing countries. Fish is consumed because of its nutritional benefits such as protein, essential amino acids, fats, and micronutrients (vitamins and minerals). Micronutrients can prevent disease disorders due to micronutrient deficiencies. But behind its nutritional advantages, fish are very easy to spoil. Fish preservation and processing methods explore ways to stop or slow down spoilage. One method of preserving and processing fish that can be applied is smoking. This study aimed to evaluate the moisture content, total fat, heavy metals, vitamin A, and microbiology of fresh and smoked barracuda fish with different smoking methods, namely traditional smoking and liquid smoke. Fresh barracuda fish is smoked using the traditional smoking method and liquid smoke. Fresh and smoked barracuda fish were then analyzed, including water content, total fat content, heavy metals (Cd, Hg, Sn, As), histamine, micronutrients (vitamins A and D), and microbial contamination. The levels of heavy metals, histamine, and microbial contamination have met the quality standard of smoked fish (SNI 2725: 2013). Vitamin A in fresh barracuda and smoked barracuda was < 15.85 mcg/100 g, while vitamin D was not detected in either fresh barracuda or smoked barracuda.

Keywords: *Heavy metals, histamine, microbiology contamination, smoked fish, vitamin*

Effect of amino acids and taste components on fermented fish sauce (Budu) from Thailand

Pornpimol Mahamad[1], Habilla Chapakiya[1], Winai Dahlan[1], Uarna Nungarlee[1], Patchaya Petchareon[1], Sarin Chaovasuteeranon[1], Kunthira Salae[1], Anat Matimu[1], Apiniharn Phewpan[1], Anat denyingyhot[1], Suwimon Keeratipibul[2], Monruedee Khemtham[1], Vanida Nopponpunth[1]

[1] *The Halal Science Center, Chulalongkorn University, Thailand*

[2] *Faculty of Science, Chulalongkorn University, Thailand*

Abstract

Budu is one of the most popular fermented fish products in Thailand's southern area due to its distinctive flavor. It is being manufactured in large quantities for usage in cuisine as seasonings and sauces. The objective of this study was to determine the effect of amino acids on the distinctive taste components of Budu in southern Thailand. The amino acids in Budu were determined using GC-MS after fish was fermented for 6–12 months as recommended by the manufacturer. Lysine, glutamic acid, and aspartic acid are the three most abundant amino acids, with 1600, 1,540, and 1,260 mg/100g, respectively. Additionally, it was revealed that the umami taste was formed by a group of amino acids (glutamic acid and aspartic acid) followed by sweetness and bitterness. Sensory analysis discovered salty tastes, followed by umami, sour, sweet, and bitter. Four Budu samples generate a salty and umami flavor. Salt is mixed with cleaned fresh fish and fermented to enable native enzymes to auto-digest the protein and produce amino acid-rich products. Fish enzymatic fermentation produces short chain peptides and amino acids that contribute to the umami flavor and taste. Additionally, the fermentation process creates a high glutamic acid concentration, as well as other amino acids and nucleotides that add to the umami flavor of the products. The study findings will be information that is particularly benefit to consumer and manufacturers to promote Budu products in the country's region.

Keywords: *Budu, Taste, Amino acid, Southern, Thailand*

Influence of Storage Temperature on the Quality of Geniotrigona thoracica Honey

Nashratul Shera Mohamad Ghazali[1], Yus Aniza Yusof[1], Nyuk Ling Chin[1], Siti Hajar Othman[1]

[1] *Universiti Putra Malaysia*

Abstract

Stingless bee honey is well-known for its high content of moisture compared to Apis mellifera honey. This study aimed to investigate the influence of different temperatures used to reduce moisture content in honey using clay pots. The Geniotrigona thoracica honey was kept in clay pots for 10 days at 25 °C and 35 °C, and the changes in its properties were evaluated on the moisture content, total soluble solids, viscosity, pH, free acidity, and colour. Honey stored at 35 °C reduced moisture content by <20% in 3 days while honey at 25 °C took 7 days. Free acidity was found higher (113 meq/kg) in the sample stored at 35 °C for 3 days compared to honey stored at 25 °C for 7 days (106 meq/kg). From this study, the suitable temperature and the use of clay pots was proved to reduce the moisture content in honey.

Keywords: *clay pots, Geniotrigona thoracica, moisture content, physicochemical, stingless bee honey*

THAILAND HALAL ASSEMBLY 2021

TRACK:
NANOTECHNOLOGY

Exploration of the selective binding property of the MIP-grafted paper for Cochineal dye

Kasinee Katelakha[1], Acharee Suksuwan[1], Najwa Yanya Santiworakun[1], Nureesun Mahamud[1], Winai Dahlan[1], Vanida Nopponpunth[1,2], Wanida Laiwattanapaisal[2]

[1]*The Halal Science Center, Chulalongkorn University*

[2]*Department of Clinical Chemistry, Faculty Of Allied Health Sciences, Chulalongkorn University*

Abstract

Molecularly imprinted polymer (MIP) is a synthetic polymer that provided specific cavities for its analyte. In this study, the MIP specific to carminic acid, an insect-derived pigment, has been synthesized using methacrylic acid (MAA) and 4-vinylpyridine (4Vpy) as monomers and ethylene glycol dimethacrylate (EDGMA) as a cross-linker. The imprinted surface particles were characterized by Scanning Electron Microscope (SEM). The rough surface of the synthesized MIP represented the specific binding site for carminic acid. The paper-based MIP polymerization was performed by pre-treatment the cellulose paper with aminopropyltriethoxysilane (APTES) before polymerization with the MIP solution. The novel membrane-grafted MIP exhibits good performance for selective recognition with the target carminic acid which can be demonstrated by the imprinted factor of 1.94 as compared to those of non-imprinted polymer. According to the Scatchard analysis, it was estimated that there are two types of binding strategy including high and low affinity which corresponded to the Ka of 1.24×10^3 mM and 0.10×10^3 mM, respectively. It was thus preliminary concluded that the membrane-grafted MIP fabricated in this study has potential to be implemented in many applications such as extraction and preconcentration.

Keywords: *Molecularly imprinted polymer, carminic acid, halal, Cochineal red color, E120*

THAILAND HALAL ASSEMBLY 2021

TRACK:
NATURAL PRODUCTS

Review: A Pharmacological Potential of Oxyresveratrol in Neuroprotection

Nureesun Mahamud[1] , Nareeya Waloh[1] , Kunthira Salae[1],
Rossarin Tansawat[2], Winai Dahlan[1], Acharee Suksuwan[1]
[1]*The Halal Science Center, Chulalongkorn University, Bangkok, Thailand*
[2] *Department of Food and Pharmaceutical Chemistry,*
Faculty of Pharmaceutical Science, Chulalongkorn University, Bangkok, Thailand

Abstract

Oxyresveratrol (OXY) is a natural compound that is found in the heartwood of Artocarpus lakoocha, mulberry twigs, mulberry wood, and Smilacis Chinae Rhizome. Studies have reported OXY's myriad pharmacological mechanisms including antioxidant activities, anti-inflammatory activities, and neuroprotective effects. Recent reviews have shown the OXY production, chemistry, biological activities, and pharmacological properties respectively. In this review, we focus on the neuroprotective effects of OXY in both models *(in vitro and in vivo)* that may improve and protect neurodegenerative diseases, which potentially may have clinical applications for Alzheimer's disease (AD), Parkinson's disease (PD), dementia, and ischemic strokes. The overall study described the models and mechanism of involvement in neuroprotective effects. OXY has been identified as novel evidence with minimal side effects to support the usage of traditional botanical medicines and nutraceutical development for neurodegenerative disease, especially in the aging society.

Keywords : *Oxyresveratrol, Neuroprotection, Neurodegenerative disease, Pharmacology*

Synergistic effect of Euphorbia Milii with Tannic Acid as a disinfectant against Escherichia coli and Staphylococcus aureus

Bakhtawar Khair Muhammad Pirzada[1], Ayesha Tajammul[1], Zubair Ahmed[1]

[1]*Us Pakistan Center for Advanced Studies In Water Mehran University Of Engineering And Technology*

Abstract

Herbal disinfectant is the cheapest and most unique way to clean a surface. This study focused on the synergistic impact of Euphorbia Milii and Tannic acid as a disinfectant against microorganisms. The aqueous solvent extract of plant leaves was used mixed with tannic acid against Staphylococcus aureus (gram-positive) and Escherichia coli (gram-negative) bacteria tested by the disk diffusion method. Both bacterial species were isolated from the kitchen surface. Minimum Inhibitory Concentration (MIC) was recorded with an optical density at 600 nm using a UV-spectrophotometer, which showed inhibition of bacterial growth in a cultural broth mixed with extract of Euphorbia Milii and Tannic acid. According to the findings, the disinfectant showed a maximum zone of inhibition for E. coli (14 mm) and S. aureus (20 mm). The disinfectant activities of extract were tested and estimated using a time-kill analysis. Fourier transform infrared spectroscopy (FTIR) analysis was conducted to identify the chemical bond, giving information related to the active sites of chemical compounds present in disinfectants. Overall, this study reveals that Euphorbia Milii is an excellent candidate to formulate disinfection.

Keywords: *Disinfectant, Euphorbia, Minimum Inhibition Concentration, Spectrophotometer, Synergistic effect.*

In-vitro antimicrobial activity of Lactuca Sativa Leaves against Isolated Clarithromycin-resistant Superbugs

Noor-un-Nisa Ghanghro[1], Ayesha Tajammul[1]
[1]*U.s-pakistan Centre For Advanced Studies In Water,*
Mehran University Of Science And Technology, Jamshoro

Abstract

Antibiotics were one of the modern advancements in the 20th century, but they have been less active and have become more alarming due to antibiotic resistance. Antimicrobial resistance among pathogenic microorganisms is rapidly increasing, posing a danger to human health. However, the most essential biologically bioactive components are sourced by plants and are industrially used to produce drugs against several antibiotic-resistant bacteria. Antimicrobial agents based on plants possess fewer side effects and have immense potential than available drugs in clinics to combat superbugs. This study investigated bioactive components of Lactuca sativa (Lettuce) that were energetic in our research against Clarithromycin-resistant bacteria. Lactuca sativa had a substantially stronger antimicrobial effect on gram-negative bacteria than it did on gram-positive. Using UV-visible spectrophotometry at 600nm, distinct behaviours of isolated bacteria were detected at varied optical densities; the highest activity was reported at 1 ml/50ml. Various phytochemicals were detected qualitatively, including carbohydrates, proteins, saponins, flavonoids, alkaloids, terpenoids, phenolic compounds, and tannins. Anthraquinones and glycosides were not discovered in lettuce. A quantitative investigation was conducted to detect unique phenolic compounds using High-Pressure Liquid Chromatography (HPLC) with varied peaks. Gallic acid, syringic acid, sinapic acid, and vanillin were identified as phenolic components by HPLC. However, further study on the analysis of isolated phytochemicals is required to identify novel antibiotics and their rapid and plant-based control and the proper management of antibiotic resistance spread and its risk to human health.

Keywords : *Lactuca sativa, lettuce, clarithromycin-resistance, bioactive components, phytochemicals*

Physicochemical Properties of Cellulose extracted From Hom Thong Banana Peels

Firadao Surattanamal[1], Suwaibah Sulong[1], Nareeya Waloh[1], Baddariyah Sohsansa[1], Winai Dahlan[1], Acharee Suksuwan[1]

[1]The Halal Science Center, Chulalongkorn University, Bangkok, Thailand

Abstract

Bananas are one of the most popular fruits in the world, yet only around 12% of them are consumed, posing an environmental problem. The goal of this research is to extract Hom Thong banana cellulose cellulose, which is the major component of banana peels. Fat analysis was used to extract and bleach Hom Thong banana cellulose, followed by soaking in 15% hydrogen peroxide for 3 h. The Hom Thong banana peel cellulose was washed and dried at 60 °C for 10 h. The obtained Hom Thong banana cellulose was characterized in terms of fatty acid profile, inter-molecular interactions, and thermal analysis by using gas chromatography, FT-IR, and DSC techniques, respectively. The results showed that the content of palmitic acid (C16:0) in post-evaporated ethanolic extract is larger than in pre-evaporated ethanolic extract, with a ratio of 44.91% and 38.62%, respectively. At a ratio of 26.19% and 31.56%, the post-evaporation of ethanolic extract contained less linoleic acid (18:2cis) than the pre-evaporation of ethanolic extract. Intra-molecular interactions between OH groups of cellulose were shown by FT-IR spectra. DSC thermograms revealed that the extracted cellulose had good thermal characteristics and was appropriate for the food and cosmetic industries.

Keywords : *Hom Thong banana peel, Cellulose, Fatty acid profile, Bleaching*

THAILAND HALAL ASSEMBLY 2021

TRACK:
INTERNET OF THINGS (IOT)

Web-Based Platform for Don Bosco High School – Senior High School – Technical Vocational Education Track in Adoption of Hybrid Learning

Jinky Baguasan Tumasis[1]
[1]*Taguig City University*

Abstract

In the last two decades, the hybrid or blended learning paradigm has emerged as a viable alternative to traditional classroom instruction. This study such elements associated to adopting a blended learning addressed numerous results, implications, and possible future paths for Senior High School where Technical Vocational Education in the Philippines progressively interacts and develop with each other. This study aimed at developing a web-based platform or portal for DBHSP – Don Bosco High School Paranaque to resolve some classroom challenges such as conventional teaching which is time-consuming and the perennial lack of classrooms in public schools by providing additional/alternative teaching tool. To this end, this study further endeavored to determine the level of project effectiveness of the web-based portal in terms of the ISO 9126-1 software quality model main characteristics, namely: functionality, reliability, usability, efficiency, maintainability and portability The data processing were analyzed using a Fourth Generation Techniques (4GT) , a dissemination of innovations and Technology Acceptance Model (TAM), is an information system theory that describes how users come to embrace and use technology. According to the paradigm, when users are presented with new technology, a variety of factors impact their decision about how and when they will use it. Hybrid learning predates modern instructional technologies, the authors conclude that its evolution will be inevitably linked to current information communication technologies and an encouraging environment for technology adopter teaching academics in a senior high school – Technology Vocational Education that are simulating some aspects of human thought perception processes. To evaluate the effectiveness, the author contends that Hybrid Learning integrate around access, progress, and studentsâ€™ impression of their learning environments. The research technique used descriptive and developmental methodologies, and the DBHS – Senior High School were purposefully selected to benefit from the web-based approaches to teach both on and off-campus learners.

Keywords : *hybrid, blended learning, innovations*

Enhancing the security of an organization from shadow IOT devices using Blow-fish encryption standard.

Senthilkumar Murugesan[1], Dr.B.S.Murugan[1]
[1] *Kalasalingam University*

Abstract

Brilliant urban communities, gridlock, squander the board, primary wellbeing, security, crisis administrations, coordination, retail, modern control, and medical care are only a couple of the applications that the Internet of Things can assist with. The Internet of Things is a super innovation that can associate with anything, anyone, whenever, spot, stage, and organization. It fundamentally affects the whole square chain of ventures, savvy items and gadgets, frameworks and administrations given by heterogeneous organization association, and is being created as a brilliant inescapable structure for shrewd gadgets. Since gadgets connect to confounded gear, collaborate with threatening environmental elements, and are sent on an assortment of unregulated stages, they defy a few security dangers and difficulties. Since the Internet of Things has the ability to coordinate any kind of organization or modern framework, it could be powerless against weaknesses innate in the different frameworks that make up the incorporated organization. The reason for this exploration paper is to examine the security gives that singular framework answerable for interconnection face, just as their effect on the in general framework.

Keywords : *IOT, Shadow-, Congestion, HNC*

Integrating of Voice Recognition Email Application System for Visually Impaired Person using Linear Regression Algorithm

Glenn Arwin Macalinao Bristol[1]

[1]*Taguig City University*

Abstract

The outcome of this study will surely help visually impaired people, who face difficulties in accessing the computer system. Voice recognition will help them to access e-mail. This study also reduces cognitive load taken by a visually impaired users to remember and type characters using keyboard. If this system is implemented, self-esteem and social and emotional well-being of the visually impaired users will be lifted up for they will now feel they are being valued in the society and has fair treatment and access in technologyThe main function of this study is to use a keyboard of the user that will respond through voice. The purpose of this study is to help a visually impaired person to use modernize application to interact with voice recognition system with the use of email into different types of modern gadgets Line computers or mobile phones. In terms of Functionality of the application, the proponents will use a set of APIs' or Application Program Interface such as Google Speech-to-text and text-to-speech application and it will process though Email System and also the SNMTP or Simple Network Management Protocol will be used for mailing services, in programming software, the proponent will be using PHP for the backend of web interface. For the creation of Web Base UI, HTML and CSS will be used. Voice typing and Dictation Speech Interaction models using windows dictation engine. The proponent used descriptive research design in this study. Descriptive research design is being used by the proponents to describe the characteristics of a population or phenomenon of visually impaired persons being studied. Descriptive research is mainly done because the researchers wants to gain a better understanding for a topic. It focuses on providing information that is useful in the development.

Keywords: *Visually Inpaired, Voice Recognition, Integration*

THAILAND HALAL ASSEMBLY 2021

TRACK:
DIGITAL MARKETING

The development of a multi-dimensional reporting system for monitoring operations and the decision of the administrators. study case of Halal Science Center Chulalongkorn University, Pattani Office.

Pitak Ardmare[1], Arseeyah Lateh[1], Fakrutdin Tapohtoh[1], Zunuri Sedeh[1], Habillah Japakiya[1], Ameen Mhamad[6], Anyamanee Nakarakaw[1], Nifarid Radenamad[1], Winai Dahlan[1]

[1] *The Halal Science Center, Chulalongkorn University*

Abstract

The Halal Science Center Chulalongkorn University at Pattani Office was established in 2009 with the primary mission of developing areas according to the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) through the project to increase personnel potential from the border provinces in the southern region until now. In addition, must report the performance of the various activities Performance in finance, supplies, content, people, public relations, Etc. Through weekly reports. The Executive Committee of The Halal Science Center Chulalongkorn University's monthly report and the report found that have the problem of the past operations cannot see the overall picture of the whole operation. Therefore, this research was conducted to develop a system for monitoring and reporting the performance in a multi-dimensional format and testing the users' satisfaction. So, results of the study showed that the multi-dimensional performance tracking and reporting system had been developed with Microsoft Excel that can reduce the operating time reduce about 70.00%, while Users of the monitoring and reporting system have an outstanding level of satisfaction from 15 total users.

Keywords: *Dashboard, Monitor, Office dashboard, Excel dashboard*

Android File and Message Encrypted Application Using Advanced Encryption Standard-Vigenere and Electronic Codebook/ Public Key Cryptography Standards/Padding a Hybrid Encryption Algorithm

Celine Dianne Tamparong Montano[1], Jeric Nuez [1]
[1]*Taguig City University*

Abstract

The study, entitled Android File and Message Encrypted Application Using Advanced Encryption Standard-Vigenere and Electronic Codebook/ Public Key Cryptography Standards/Padding a Hybrid Encryption Algorithm, was a proposed solution about Social Engineering and hacking. With the Data Privacy Act of 2012, the study promotes and inspires. The study's goal is to provide users with security and protection for their personal information. The purpose of this research is to prevent cyber theft. The theft of financial and/or personal information through the use of a computer/device for fraudulent or other illegal purposes is referred to as cyber theft. The objectives were aimed at the system's functionality, and the scope and limitations were considered to determine the study's capability and boundaries. For this case, the study proposed solutions. The first chapter provides a general overview of the application. The project background covered the area, challenge, and how the developers came up with the plan, as well as the study's major argument. The Android SMS and File Manager Encrypted Application employs two distinct hybrid encryption algorithms. The prototype is the model that is appropriate in our system development because the proponents are developing a mobile application. This application promotes the Data Privacy Act, which protects and maintains the customer's or user's right to confidentiality. The survey results are positive, and almost everyone would like to have this type of application that can secure their files and messages. As a result, the proponents conclude that this application is feasible and long-term.

Keywords: *AES, Android, Algorithm, Encryption, SMS*

THAILAND HALAL ASSEMBLY 2021

TRACK:
COSMETIC SCIENCE

Formulation of Coenzyme Q10 Liquid Foundation with a Variations Olive oil as the oil phase

Dewi Juliana[1], M Fathur Rochman[1]
[1] *Universitas Wahid Hasyim Semarang*

Abstract

Coenzyme Q10 contains antioxidants that can protect the skin from damage caused by harmful molecules which are usually called free radicals. Moisturizer Liquid Foundation formulation with variations of olive oil as the oil phase can produce good physical stability of Moisturizer Liquid Foundation preparations during physical testing. The Moisturizer Liquid Foundation formulation was made using various concentrations of the olive oil phase, namely FI (3%), FII (5%), and FIII (7%). The Moisturizer Liquid Foundation formulation was made using the Emulsion evaporation method and physical characteristics tests were carried out including organoleptic tests, pH tests, viscosity tests, dispersibility tests, adhesion tests, and hedonic tests. The results showed that the organoleptic test of the three formulas had the same color and aroma but the texture of the preparations was different due to variations in concentration. The higher the concentration of olive oil, the more viscosity will increase according to the data, namely F1:5200 Cpas, F2: 6400: Cpas, F3: 8400 Cpas. The higher the concentration of olive oil, the more acidic the pH value will be according to the data, namely F1: 6.17; F2: 6.11; and F3: 5.99. The results of the F1 dispersion test: 6,6; F2: 6.4; and F3: 6.2. The results of the F1 adhesion test: 6,11; F2: 6.25; and F3: 6.51. The most preferred hedonic test result is F2.

Keywords : *Coenzim Q10, Moisturizer Liquid Foundation, Olive oil*

Formulation and Stability Determination of Anti-Acne Cream Containing Black Cumin Seed oil and Kaolin Clay

Najwa Yanya Santiworakun[1], Winai Dahlan[1], Zamzam Arour[1], Nasrin Plalamee[1], Sukrit Sirikwanpong[1,2], Netnapa Ontao[1], Marisa Marpae[1], Acharee Suksuwan[1]
[1]The Halal Science Center, Chulalongkorn University, Thailand
[2]Department of Nutrition and Dietetics, Faculty of Allied Health Science, Chulalongkorn University, Thailand

Abstract

Acne is the most common skin problem that could occure to any individual. Nigella sativa seed oil and kaolin as natural antimicrobial agents have been utilized in anti acne cream formulated in this study. This study aimed at development of anti-acne cream with anti-microbial property using a crude extract of black cumin *(Nigella sativa L.)*. Anti-acne creams had been formulated from cream-based agents with various percentages of crude black cumin seed extract and 1.0% (w/w) of mineral clay (Kaolin). Physical properties and stability of anti acne cream at various storage conditions, including incubation at and freeze-thaw at 4, 40 and 45 °C for 28 days. The results showed that developed anti-acne cream containing a crude black cumin seed extract in 0.1 and 1.5% (w/w) had good physical stability. Therefore, the suitable formulation was then tested for anti-Propionibacterium acnes *(P. acnes)* susceptibility by broth dilution method. From these results, it was found that 1.0 % (w/w) of crude black cumin seed extract had ability to inhibit *P.acnes* with MIC (minimal inhibition concentration) of 15.6 mg/mL.

Keywords: *Nigella sativa, Kaolin clay, Acne, Propionibacterium acnes*

Formulation of Coenzyme Q10 Liquid Foundation with a Variations Virgin Coconut Oil as The Oil Phase

Ulfiyatun Nafi'ah[1], M Fatchur Rochman[2]
[1]*Universitas Wahid Hasyim Semarang,*
[2]*Universitas Wahid Hasyim*

Abstract

Coenzyme Q10 is a compound with strong antioxidants that can protect the skin from exposure to UV rays, therefore researchers formulated a liquid foundation moisturizer coenzyme Q10 with VCO oil phase which is able to provide many benefits. In addition, VCO is able to provide good physical characteristics to the preparation. The purpose of this study was to determine the effect of variations in the concentration of virgin coconut oil on the physical characteristics of the preparation and to determine the formula with the most preferred concentration of VCO by the public. The methodology in this research is evaporation emulsification with a 500 rpm magnetic stirrer for 10 minutes. Moisturizer liquid foundation is made by mixing the oil phase into the water phase above a water bath at a temperature of 70 °C and adding white pigment to form an ivory color. The results showed that the higher the concentration of VCO, the lower the pH, viscosity and adhesion of the preparation, while the greater the spreadability. In addition to testing the physical characteristics, the researchers also conducted a preference test and the results obtained were that the respondents preferred formula 3 with a VCO concentration of 7%. Data were analyzed by descriptive statistics and linear regression with 95% confidence level.

Keywords: *Moisturizer liquid foundation, coenzyme Q10, VCO*

Formulation of Coenzyme Q10 Liquid Foundation with a Variations Linseed Oil as The Oil Phase

Thalia Marviani[1]
[1]*Universitas Wahid Hasyim Semarang*

Abstract

Antioxidant coenzyme Q10 (CoQ10) has properties as a sunscreen that can protect the skin from the aging process accelerated by UVB rays. Linseed oil (LO) formulated in cosmetics aims to find out the characteristics of moisturizer liquid foundation with LO as oil phase. In this study, cosmetic formulations were carried out using a modified method of emulsification evaporation. In the moisturizer liquid foundation CoQ10, three other formulas were used with LO concentrations of 3%, 5%, 7% to determine the effect of vegetable oils used on cosmetic characteristics. Evaluation of physical properties includes organoleptic, pH, viscosity, spreadability, and adhesivity. Evaluation of the acceptance of preparations was carried out to 15 panelists. The results of the study showed that the use of LO influences the characteristics of moisturizer liquid foundation CoQ10. The increase in LO concentration increases viscosity value, adhesivity, and decreased pH and spreadability but the results obtained still meet the criteria. The results of the hedonic test showed no significant difference from the three formulas 0.911 ($P>0.05$), it was proven that the panelists preferred formula 1 which has a texture that is not too thick.

Keywords: *CoQ10, Sunscreen, Linseed oil, Moisturizer Liquid Foundation*