

# IRWANDI JASWIR



- INTERNATIONAL INSTITUTE FOR HALAL RESEARCH AND TRAINING
- IIUM Gombak Campus
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## KELAYAKAN AKADEMIK

- Ph.D in Food Chemistry & Biochemistry
- Master of Science in Food Chemistry & Biochemistry
- B.Sc. in Agricultural Technology

## TANGGUNGJAWAB MENGAJAR

BIOCHEMICAL KINETICS	2008/2009
BIOTECHNOLOGY ENGINEERING LAB IV	2008/2009
FATS AND OILS CHEMISTRY AND TECHNOLOGY	2005/2006
FOOD BIOTECHNOLOGY	2004/2005 2008/2009 2009/2010 2010/2011 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018
FOOD CHEMISTRY	2004/2005 2005/2006
FOOD PROCESS ENGINEERING	2009/2010 2010/2011 2011/2012 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018
FOOD QUALITY ASSESSMENT AND CONTROL	2009/2010 2010/2011 2011/2012 2012/2013 2014/2015 2015/2016
HALAL AND HARAM FOOD PROCESSING	2003/2004
HALAL INDUSTRY AND ADVANCED TECHNIQUE ANALYSIS	2016/2017 2019/2020
HALAL INDUSTRY AND ADVANCED TECHNIQUES ANALYSIS	2014/2015 2015/2016 2018/2019 2019/2020
HALAL INDUSTRY ECOSYSTEM	2019/2020 2020/2021
HALAL&HARAM IN FOOD INGREDIENTS & PROCESSING	2004/2005 2005/2006 2009/2010 2010/2011 2012/2013
INTRODUCTORY MICROBIOLOGY	2001/2002
INTRODUCTORY TO MICROBIOLOGY	2002/2003
ORGANIC CHEMISTRY	2002/2003 2003/2004 2004/2005

PRINCIPLES OF BIOCHEMISTRY	2002/2003 2003/2004
RESEARCH METHODOLOGY IN BIOTECHNOLOGY ENGIN	2010/2011
RESEARCH METHODS IN BIOTECHNOLOGY ENGINEERING	2009/2010
SEMINAR II	2008/2009 2009/2010 2010/2011 2011/2012

## PROJEK PENYELIDIKAN

### In Progress

<b>2020 - Present</b>	Halal Food Science and Nutrition
<b>2019 - Present</b>	KIHCA Halal Audit
<b>2018 - Present</b>	Data Management of Various Non-Halal Adulterations and Development of Portable Halal Device
<b>2016 - Present</b>	Molecular mechanisms of anticancer activity of Sarang Semut ( <i>Myrmecodia pendans</i> ) plant extract on oral squamous cell carcinoma cell line
<b>2016 - Present</b>	Molecular mechanisms of anticancer activity of Sarang Semut ( <i>Myrmecodia pendans</i> ) plant extract on oral squamous cell carcinoma cell line
<b>2016 - Present</b>	Development of Rapid Low Cost Protocol for Halal Authentication of Gelatin Sources
<b>2015 - Present</b>	Upscaling the Production of Novel Fucoxanthin from Malaysian Brown Algae for food and Pharmaceutical Applications
<b>2015 - Present</b>	Clinical, Radiographic and genetic Evaluation of Non-Syndromic Hypodontia in Malaysia Population
<b>2015 - Present</b>	Development And Validation of a Method to Detect Polyaromatic Hydrocarbons in Locally Processed Foods
<b>2013 - Present</b>	Legal and Administrative Requirement in Shari'ah Compliant Hospitality Services
<b>2013 - Present</b>	Production of Non-Thermally Processed Alternative Ingredients for Halal Food Products
<b>2013 - Present</b>	Study on the Production and Characterization of Fish Collagen Nanoparticles (NPs) from Local Sources and Their Incorporation in Food System
<b>2006 - Present</b>	Bio-Process and Molecular Engineering Research Unit (BPMERU)

**2006 - Present** New Name: Bio-Process and Molecular Engineering Research Unit (BPMERU)  
Biomolecular Engineering Research Unit (BioMERU)

**2004 - Present** Functional Food and Nutraceuticals Research Unit (FFNRU)

### Completed

**2019 - -1** KIHCA Halal Audit

**2016 - -1** Development of Rapid Low Cost Protocol for Halal Authentication of Gelatin Sources

**2016 - 2019** Molecular mechanisms of anticancer activity of Sarang Semut (*Myrmecodia pendans*) plant extract on oral squamous cell carcinoma cell line

**2016 - 2019** Production and Quality Parameters of Halal Local Ingredients and Natural Products

**2015 - 2018** Clinical, Radiographic and genetic Evaluation of Non-Syndromic Hypodontia in Malaysia Population

**2015 - 2017** Upscaling the Production of Novel Fucoxanthin from Malaysian Brown Algae for food and Pharmaceutical Applications

**2015 - 2017** Development And Validation of a Method to Detect Polyaromatic Hydrocarbons in Locally Processed Foods

**2015 - 2018** Characterization of Halal and Non-Halal Animal Bones As Raw Material for Gelatin and Gelatin Based Products

**2014 - 2017** Lutein Production by *Muriellopsis* sp. using Flue Gas for the Source of Carbon Dioxide

**2014 - 2016** Development of Carotenogenesis Model System using Callus Cultures from *Ocimum basilicum* and Elicitors as Environmental Stress Agent to Study Regulatory Mechanisms of Carotenoid Biosynthesis in Plant

**2013 - 2018** Production of Non-Thermally Processed Alternative Ingredients for Halal Food Products

**2013 - 2015** Development of Integrated Technologies for Extraction, Purification and Mass Production of natural Carotenoid Pigments as Halal Food Colorants Through Cell Culture

**2013 - 2016** Seaweed Supplemented Fish Feed With High Nutritional Value

**2013 - 2016** Study on the antioxidant activities of lutein and beta-carotene and their properties in cellular level.

**2013 - 2017** Regulated Splicing Systems and Formal Models for Food Authentication

**2012 - 2017** Production of Seaweed Supplemented Fish Feed

**2012 - -1** Production of Seaweed Supplemented Fish Feed

**2012 - 2015** Study on Microencapsulation and Delivery of Fucoxanthin Derived from Malaysian Brown Seaweeds for Human Lung Cancer Treatment

- 2012 - 2015** Portable Electronic Nose for Alcohol Detection in Food and Beverages
- 2011 - 2016** Microbiological Guidelines of Medium Najs (Filth) Contamination in Food and on Food Equipment in Halal Food Premises
- 2011 - 2012** Extraction of Astaxanthin Esthers from Shrimp Waste by Fermentation
- 2011 - 2012** Studies on Carotenoids from Local Sources for Their Anti-Inflammatory and Anti-Obesity Properties
- 2011 - 2014** Enhancement of Co2 Mitigation of Cyanobacteria Potential for Biofuel Production
- 2011 - 2014** Inoculant Development and Studies of Health Beneficial Effects Gaharu
- 2010 - 2013** Development of Process Conditions for The Production of Halal Animal Feed Improved Nutrients from Agro Industrial Wastes
- 2010 - 2011** Production of Plant-based Gelatin Replacers
- 2009 - 2012** Production of L-cysteine from Various Parts of Garlic Plant"
- 2009 - 2012** Halal Certification training for Main Kazakhstan
- 2009 - 2012** Studies on Carotenoids from Local Sources for Food and Nutraceutical Applications
- 2008 - 2011** Solubization and Uptake of Dietary Antioxidants for Human Hepatocellular Liver Carcinoma Cell Line and Their Antioxidant Activities.
- 2008 - 2011** Production of Halal Ingredients from Local Sources
- 2008 - 2009** Optimization of the Use of the Natural Antioxidants in Different Cooking Oil Systems during Frying
- 2006 - 2013** International Institute for Halal Research and Training (INHART)
- 2006 - 2012** Studies on Mangrove in Pulau Toba, Langkawi
- 2004 - 2006** Nutrition and Functional Food in Marine Sources in Pulau Tuba, Langkawi

## PENERBITAN

### Article

- 2020** [Underlying the dimension of knowledge factors in purchasing Halal product among Muslim consumers.](#) Malaysian Journal of Social Sciences and Humanities (MJSSH) , 5 (4) pp.34-40
- 2019** [In vivo anxiolytic and in vitro anti-inflammatory activities of water-soluble extract \(WSE\) of Nigella sativa \(L.\) seeds.](#) Natural Product Research pp.1-6
- 2019** [Halal governance in Indonesia: theory, current practices, and related issues.](#) Journal of Islamic Monetary Economics and Finance , 5 (1) pp.89-116

- 2019** [Optimization and formulation of Fucoxanthin-Loaded Microsphere \(F-LM\) using Response Surface Methodology \(RSM\) and analysis of its fucoxanthin release profile.](#) *Molecules* , 24 (5) pp.1-16
- 2019** [The role of Halal certification on purchase intention towards food products from MENA countries: a SEM study.](#) *Journal of Islamic Monetary Economics and Finance* , 5 (1) pp.63-88
- 2019** [Texture Profile Analysis \(TPA\) of the jelly dessert prepared from halal gelatin extracted using High Pressure Processing \(HPP\).](#) *Malaysian Journal of Fundamental and Applied Sciences* , 15 (4 (July-August)) pp.604-608
- 2018** [Characterization and functional properties of gelatin extracted from goatskin.](#) *International Food Research Journal* , 25 (1) pp.275-281
- 2018** [Profiling of wavelength biomarkers of pure meat samples from different species based on Fourier transform infrared spectroscopy \(FTIR\) and PCA techniques.](#) *International Journal on Advanced Science, Engineering and Information Technology* , 8 (4-2) pp.1617-1624
- 2018** [Optimization of high-pressure processing in extraction of astaxanthin from Penaeus monodon carapace using response surface methodology.](#) *Journal of Food Process Engineering* , 41 (8)
- 2018** [A research framework of the halal certification role in purchase intention of muslim consumers of the food products from muslim majority countries in the middle east and North Africa.](#) *International Journal of Modern Trends in Business Research* , 1 (2) pp.15-28
- 2018** [Identification of pig adulterant in mixture of fat samples and selected foods based on FTIR-PCA wavelength biomarker profile.](#) *International Journal on Advanced Science, Engineering and Information Technology* , 8 (6) pp.2341-2348
- 2018** [Synthesis of fish gelatin nanoparticles and their application for the drug delivery based on response surface methodology.](#) *Advances in Natural Sciences: Nanoscience and Nanotechnology* , 9 pp.045014-1-13
- 2018** [Optimization of lard compound analysis using portable electronic nose based upon response surface methodology.](#) *Malaysian Journal of Consumer and Family Economics* , 21 (2) pp.124-131
- 2018** [Gold nanoparticles:synthesis and application for halal authentication in meat and meat products.](#) *International Journal on Advanced Science, Engineering and Information Technology* , 8 (4-2) pp.1633-1641
- 2018** [A research framework of the halal certification role in purchase intention of Muslim consumers on the food products from Muslim majority countries in the Middle East and North Africa.](#) *International Journal of Modern Trends in Business Research* , 1 (2) pp.15-28
- 2018** [Comparison between high-pressure processing and chemical extraction: Astaxanthin yield from six species of shrimp carapace.](#) *Journal Of Dietary Supplements* , 15 (6) pp.805-813
- 2017** [Structural characteristics of camel-bone gelatin by demineralization and extraction.](#) *International Journal of Food Properties* , 20 (11) pp.2559-2568
- 2017** [Nano-encapsulation of proteins and peptides.](#) *Current Nanomaterials*

- 2017** [Enzyme-aided extraction of sulfated polysaccharides from \*Turbinaria turbinata\* brown seaweed.](#) International Food Research Journal , 24 (4) pp.1660-1666
- 2017** [Effect of abiotic stress under light and dark conditions on carotenoid content in pumpkin \(\*Cucurbita moshata\*\) calluses.](#) Journal of Fundamental and Applied Sciences , 9 (2S (Special issue)) pp.861-875
- 2017** [Extraction of lycopene from tomato waste using solid state fermentation.](#) International Food Research Journal , 24 (Suppl) pp.416-421
- 2017** [Effects of process conditions on the ultrasonic extraction of phenolics scavenger from \*Curcuma caesia\* rhizome.](#) International Food Research Journal (IFRJ) , 24 (Suppl) pp.422-427
- 2017** [The authentication of Halal dental materials using rapid Fourier Transform Infrared \(FTIR\) spectroscopy.](#) Advanced Science Letters , 23 (5) pp.4750-4752
- 2017** [Quantification of total phenolic compounds in papaya fruit peel.](#) Pertanika Journal of Tropical Agricultural Science , 40 (1) pp.87-98
- 2017** [Stability of carotenoid composition in orange sweet potato \(\*Ipomoea batatas\*\) tuber flesh over three growing seasons and 6 months storage time.](#) Journal of Pharmacy and Nutrition Sciences , 7 (4) pp.158-163
- 2017** [Chemical structure of sulfated polysaccharides from brown seaweed \(\*Turbinaria turbinata\*\).](#) International Journal of Food Properties , 20 (7) pp.1457-1469
- 2017** [Optimum media compositions for bioprotein production by mixed culture of \*Phanerochaete chrysosporium\* and \*Candida utilis\* using palm kernel cake and seaweed as substrates.](#) International Food Research Journal , 24 (Suppl) pp.S363-S368
- 2017** [Influence of growing location, harvesting season and post-harvest storage time on carotenoid biosynthesis in orange sweet potato \(\*Ipomoea batatas\*\) tuber flesh.](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S488-S495
- 2017** [Comparison of composition, thermal behaviour and polymorphism of pink guava \(\*Psidium guajava\*\) seed oil-palm stearin blends and lard.](#) International Food Research Journal , 24 (Suppl.) pp.S348-S354
- 2017** [Rapid detection of ethanol in beverages using IJUM-fabricated electronic nose.](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S529-S532
- 2017** [Identification and verification of porcine DNA in commercial gelatin and gelatin containing processed foods.](#) Food Control , 78 pp.297-303
- 2017** [Effect of abiotic stress on carotenoids accumulation in pumpkin plants under light and dark conditions.](#) International Food Research Journal , 24 (Suppl.) pp.S387-S394
- 2017** [Effect of pink guava oil-palm stearin blends and lard on dough properties and cookies quality.](#) International Food Research Journal , 24 (Suppl.) pp.355-362
- 2017** [Effects of \*Sargassum oligocystum\* and \*Padina australis\* extract on Adipogenesis and Adipolysis in 3T3-L1 Cells.](#) International Food Research Journal , 24 (Suppl.) pp.395-401

- 2017** [Some characteristics and functional properties of Chunma \(\*Gastrodia elata\*\) as a food supplement: a short review.](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S274-S280
- 2017** [Optimization of essential oil and fucoxanthin extraction from \*Sargassum binderi\* by Supercritical Carbon Dioxide \(SC-CO<sub>2</sub>\) extraction with ethanol as co-solvent Using Response Surface Methodology \(RSM\).](#) International Food Research Journal , 24 (Suppl.) pp.S514-S521
- 2017** [Antioxidant and antimicrobial activities of astaxanthin from \*Penaeus monodon\* in comparison between chemical extraction and High Pressure Processing \(HPP\).](#) International Food Research Journal (IFRJ) , 24 pp.508-513
- 2017** [Metal toxicity and environmental effects on health: a study report on mineral and heavy metal contents of different Malaysian fish species.](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S544-S551
- 2017** [The Islamic ethics of mitochondria transplantation.](#) IIUM Engineering Journal , 18 (2) pp.42-46
- 2017** [Comparative study on spoilage and pathogenic bacteria in selected commercial marine and freshwater fishes.](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S298-S304
- 2017** [Bioprocessing of seaweed into protein enriched feedstock: process optimization and validation in reactor.](#) International Food Research Journal , 24 (Suppl) pp.382-386
- 2017** [Novel method for gelatin extraction of various local fish using High Pressure Processing \(HPP\).](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S533-S539
- 2017** [Optimization of process condition for extraction of gelatin from red tilapia skin \(\*Oreochromis niloticus\*\) by High Pressure Processing \(HPP\).](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S340-S347
- 2017** [Process optimization for the production of fish gelatin nanoparticles.](#) International Food Research Journal , 24 (Suppl.) pp.S501-S507
- 2017** [Fish gelatin nanoparticles and their food applications: a review.](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S225-S264
- 2017** [Production of refined carrageenan from \*Kappaphycus alvarezii\* on pilot plant scale: optimization of water extraction using Response Surface Methodology.](#) International Food Research Journal (IFRJ) , 24 (Suppl.) pp.S522-S528
- 2017** [Effect of abiotic stress on carotenoids accumulation in orange sweet potato callus under light and dark conditions.](#) International Food Research Journal , 24 (Supplementary Issue) pp.481-487
- 2017** [Evaluation of catalytic effects of chymotrypsin and Cu<sup>2+</sup> for development of UV-spectroscopic method for gelatin-source differentiation.](#) International Journal of Food Science , 2017 pp.1-5
- 2016** [Quantification of total phenolic compounds in papaya \(\*Carica papaya\*\) peels.](#) Pertanika Journal of Tropical Agricultural Science , 40 (1) pp.1-14

- 2016** [Process development for maximum lycopene production from selected fruit waste and its antioxidant and antiradical activity.](#) Journal of Food Processing & Technology , 7 (4) pp.1-7
- 2016** [Analysis of TaeCheongsu natural water from Baegunsan Mountain, Korea.](#) International Journal of Biotechnology and Bioengineering , 1 (1,02) pp.14-19
- 2016** [Towards authentication of beef, chicken and lard using micro near-infrared spectrometer based on support vector machine classification.](#) ARPN Journal of Engineering and Applied Sciences , 11 (6) pp.4130-4136
- 2016** [Optimization of extraction process of plant-based gelatin replacer.](#) International Food Research Journal , 23 (6) pp.2519-2524
- 2016** [Application of chromatographic and infra-red spectroscopic techniques for detection of adulterations in food lipids: a review.](#) Journal of Food Chemistry & Nanotechnology , 2 (1) pp.32-41
- 2016** [Fabrication of Fucoxanthin-Loaded Microsphere \( F-LM\) by two steps double-emulsion solvent evaporation methods and characterization of fucoxanthin before and after microencapsulation.](#) Journal of Oleo Science , 65 (8) pp.641-653
- 2015** [Bioconversion of seaweed with white rot fungi for production of protein enriched fish feedstock.](#) Jurnal Teknologi , 77 (24) pp.1-6
- 2015** [Potentiality of selected seaweed for the production of nutritious fish feed using solid state fermentation.](#) Journal of Engineering Science and Technology , 3 (1) pp.30-40
- 2015** [Effect of locality on carotenoids stability in Malaysian orange sweet potato \(Ipomoea batatas\) tuber flesh.](#) Australian Journal of Basic and Applied Sciences , 9 (17(spe)) pp.40-45
- 2015** [Identification of total carotenoids and  \$\beta\$ -carotene content in different flesh tuber colours of local sweet potato \(Ipomoea batatas\) for pharmaceutical industry.](#) Australian Journal of Basic and Applied Sciences , 9 (17 (SpecIss)) pp.60-63
- 2015** [Characterisation of carotenoid content in diverse local sweet potato \(ipomoea batatas\) flesh tubers.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 7 (2) pp.347-351
- 2014** [Identification of microbes in inoculant for agarwood \(gaharu\) formation using molecular biological techniques.](#) Journal of Pure and Applied Microbiology , 8 (May (Special edition)) pp.769-776
- 2014** [Effects of pretreatment on properties of gelatin from perch \(Lates Niloticus\) skin.](#) International Journal of Food Properties , 17 (6) pp.1224-1236
- 2014** [Anti-cancer potential of agarwood distillate.](#) Journal of Pure and Applied Microbiology , 8 (Sp. ed) pp.871-874
- 2014** [Cytotoxicity and inhibition of nitric oxide syntheses in LPS induced macrophage by water soluble fractions of brown seaweed.](#) Food Hydrocolloids , 42 pp.269-274
- 2014** [Cytotoxicity and inhibition of nitric oxide in lipopolysaccharide induced mammalian cell lines by aqueous extracts of brown seaweed.](#) Journal of Oleo Science , 63 (8) pp.787-794



- 2014** [Carotenoid content in different locality of pumpkin \(\*Cucurbita moschata\*\) in Malaysia.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 6 (Supp 3) pp.29-32
- 2014** [Carotenoid stability and quantity of different sweet potato flesh colour over postharvest storage time.](#) Advances in Environmental Biology , 8 (3 (Spc) pp.667-671
- 2014** [Effects of season and storage period on accumulation of individual carotenoids in pumpkin flesh \(\*Cucurbita moschata\*\).](#) Journal of Oleo Science , 63 (8) pp.761-767
- 2014** [Bromelain: an overview of industrial application and purification strategies.](#) Applied Microbiology and Biotechnology , 98 (14) pp.7283-7297
- 2014** [Study on anti-bacterial potentials of some Malaysian brown seaweeds.](#) Food Hydrocolloids , 42 (P2) pp.275-279
- 2014** [Application of response surface methodology for protein enrichment of cassava peel as animal feed by the white-rot fungus \*Panus tigrinus\* M609RQY.](#) Food Hydrocolloids , 42 pp.298-303
- 2014** [Effect of season and storage period time on accumulation of individual carotenoid content in pumpkin flesh \(\*Cucurbita moschata\*\).](#) Journal of Oleo Science , 63 (8) pp.761-767
- 2013** [Analysis of fucoxanthin content and purification of all-trans-fucoxanthin from \*turbinaria turbinata\* and \*sargassum plagyophyllum\* by SiO<sub>2</sub> open column chromatography and reversed phase-HPLC.](#) Journal of Liquid Chromatography & Related Technologies , 36 (10) pp.1340-1354
- 2013** [Enzymatic hydrolysis of plants and algae for extraction of bioactive compounds.](#) Food Review International , 29 pp.352-370
- 2012** [The importance of a standardized Islamic manufacturing practice \(IMP\) for food and pharmaceutical productions.](#) The Importance of a Standardized Islamic Manufacturing Practice (IMP) for Food and Pharmaceutical Productions , 6 (5 Special 4) pp.588-595
- 2012** [Antioxidant behaviour of carotenoids highly accumulated in HepG2 cells.](#) Food Chemistry , 132 (2) pp.865-872
- 2012** [Focoxanthin extractions of brown seaweeds and analysis of their tipid fraction in methanol.](#) Food Science and Technology Research , 18 (2) pp.251-257
- 2012** [Rapid authentication of leather and leather products.](#) Advances in Natural and Applied Sciences , 6 (5) pp.651-659
- 2012** [Oxidative behaviour of four Malaysian edible plant extracts in model and food oil systems.](#) Journal of Medicinal Plants Research , 6 (9) pp.1556-1561
- 2012** [Scheme of obtaining  \$\beta\$ -carotene standard from pumpkin \(\*Cucurbita moschata\*\) flesh .](#) International Food Research Journal , 19 (2) pp.531-535
- 2011** [Nano-structural analysis of fish collagen extracts for new process development.](#) African Journal of Biotechnology , 10 (81) pp.18847-18854

- 2011** [Isolation of fucoxanthin and fatty acids analysis of Padina australis and cytotoxic effect of fucoxanthin on human lung cancer \(H1299\) cell lines.](#) African Journal of Biotechnology , 10 (81) pp.18855-18862
- 2011** [Packaging food in Halal environment.](#) Halal Pages 2011/2012 pp.40-48
- 2011** [Fucoxanthin extraction and fatty acid analysis of Sargassum binderi and S. duplicatum.](#) Journal of Medicinal Plants Research , 5 (11) pp.2405-2412
- 2011** [Anti-inflammatory compounds of macro algae origin: A review.](#) Journal of Medicinal Plants Research , 5 (33) pp.7146-7154
- 2011** [Carotenoids: Sources, medicinal properties and their application in food and nutraceutical industry.](#) Journal of Medicinal Plants Research , 5 (33) pp.7119-7131
- 2010** [Application of two dimensional thin layer chromatography pattern comparison for fingerprinting the active compounds in the leaves of Vitex Trifolia linn processing anti-tracheospasmolytic activity .](#) Journal of Liquid Chromatography & Related Technologies , 33 pp.214-224
- 2010** [Synchronizing HALAL manufacturing practices with GMP in food industry.](#) Halal Pages 2010/2011 pp.10-12
- 2010** [Alternative gelatin from fish collagen.](#) Halal Pages 2010/2011 pp.34-36
- 2010** [Application of two dimensional thin layer chromatography pattern comparison for fingerprinting the active compounds in the leaves of Vitex trifolia Linn possessing anti-tracheospasmolytic activity.](#) Journal of Liquid Chromatography & Related Technologies , 33 (2) pp.214-224
- 2009** [Mineral and heavy metal contents of marine fin fish in Langkawi Island, Malaysia.](#) International Food Research Journal , 16 (1) pp.237-244
- 2009** [Studies on physico-chemical characteristics and sediment environment along the coastal waters Pulau Tuba, Langkawi Malaysia.](#) Aquatic Ecosystem Health and Management (AEHMS) , 12 (4) pp.350-357
- 2009** ["Veggie gelatin", why not?: extensive research to explore the potential of Malaysian plants.](#) Halal Pages 2009/2010
- 2009** [Identification of possible compounds possessing adenosine A1 receptor binding activity in the leaves of orthosiphon stamineus using TLC and multivariate data analysis.](#) Journal of Liquid Chromatography & Related Technologies , 32 pp.2906-2916
- 2009** [General guidelines for halal food preparation: unified standard of halal certification is important to globalize halal products.](#) Halal Pages 2009/2010 pp.38-42
- 2009** [Kebutuhan dan tantangan analisa pangan.](#) Food Review Indonesia , IV (1) pp.58-59
- 2009** [Bacterial pollution in Molluscs Arch Clam, Orbicularia orbiculata and Blood Cockle, Anadara granosa of Pahang estuary, Malaysia.](#) Journal of Biological Sciences , 9 (8) pp.841-850
- 2009** [Halal processed food and beverages: some concerns on food additives and ingredients.](#) Halal Pages 2009/2010 pp.32-34

- 2009 [Storage stability of fish oil from Langkawi Island, Malaysia.](#) Food Science and Technology Research , 15 (6) pp.591-598
- 2009 [Identification of possible compounds possessing adenosine A1 receptor binding activity in the leaves of orthosiphon stamineus using TLC and multivariate data analysis..](#) Journal of Liquid Chromatography & Related Technologies , 32 (19) pp.2906-2916
- 2009 [Extraction and characterization of gelatin from different marine fish species in Malaysia.](#) International Food Research Journal , 16 pp.381-389
- 2009 [Solubility, uptake and antioxidative activity of carotenoids in human hepatocellular liver carcinoma \(HEPG2\) cell line.](#) Annals of Nutrition and Metabolism , 55 (Supp 1) pp.335-335
- 2004 [Efficacy of Malaysian plant extracts in preventing peroxidation reactions in model and food oil systems.](#) Journal of Oleo Science , 53 (11) pp.525-529
- 2003 [Determination of lard in mixture of body fats of mutton and cow by fourier transform infrared spectroscopy.](#) Journal of Oleo Sciences , 52 (12) pp.633-638
- Conference or Workshop Item**
- 2019 [The development of rapid method for detection of ethanol in mouthwash using E-Nose.](#) In: **International Malaysia Halal Conference (IMHALAL) 2019**
- 2018 [Texture Profile Analysis \(TPA\) of the jelly dessert prepared from Halal gelatin extracted using High Pressure Processing \(HPP\).](#) In: **International Conference on Halal Innovation in Products and Services 2018 (i-CHIPS 2018)**
- 2018 [Development of ready to use therapeutic food for the treatment of malnutrition.](#) In: **20th IMAM Annual Scientific Conference**
- 2017 [Emerging sustainable technologies for transformation of gelatin and gelatin-based films.](#) In: **ASIA International Multidisciplinary Conference 2017 (AIMC 2017)**
- 2017 [Investigation of factors affecting development of browning during Maillard reaction of gelatin.](#) In: **ASIA International Multidisciplinary Conference 2017**
- 2017 [Rapid lard identification with portable electronic nose.](#) In: **6th International Conference on Mechatronics - ICOM'17**
- 2017 [Understanding the significance variables for fabrication of fish gelatin nanoparticles by Plackett-Burman design.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering 2017 (ICAMME17)**
- 2017 [Non-halal biomarkers identification based on fourier transform infrared spectroscopy \(FTIR\) and gas chromatography-time of flight mass spectroscopy \(GC-TOF MS\) techniques.](#) In: **International Conference on Applied Photonics and Electronics 2017 (InCAPE2017)**
- 2017 [Rapid detection of gelatin in dental materials using attenuated total reflection fourier transform infrared spectroscopy \(ATRFTIR\).](#) In: **1st Physics and Technologies in Medicine and Dentistry Symposium, PTMDS 2017**

- 2016 [Fish gelatin nanoparticles and their food applications: A review.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Production of lycopene from tomato waste using solid state fermentation.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Identification and validation of optimal process conditions for protein enrichment of seaweed \(\*Ulva Spp.\*\) by \*Phanerochaete chrysosporium\* in a reactor.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [The effect of pH on the extraction yield of camel hides gelatin and its potential application in Halal industry.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Moringa oleifera seed extract: A halal friendly alternative water disinfection mechanism.](#) In: **Putrajaya International Built Environment, Technology and Engineering Conference (PIBEC2016)**
- 2016 [Extraction of various fish gelatin assisted by High Pressure Processing \(HPP\) .](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Effects of process conditions on the ultrasonic extraction of phenolics scavenger from \*Curcuma caesia\* rhizome.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Cellulase aided extraction and characteristics of sulfated polysaccharides from Brown seaweed \(\*Turinaria turbinata\*\).](#) In: **Agricultural Bioscience International Conference (ABIC 2016)**
- 2016 [Effect of abiotic stress on carotenoids accumulation in pumpkin plants and calluses under light and dark conditions.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Production of polylactic acid nanoparticles encapsulating astaxanthin.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Formulation development and systematic optimization of production fish gelatine nanoparticles as new resource for drug delivery.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Effect of media compositions on bioprotein production by mixed culture of \*Phanerochaete chrysosporium\* and \*Candida utilis\* using palm kernel cake and seaweed as substrates.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2015 [Bioconversion of seaweed with white rot fungi for production of protein enriched fish feedstock.](#) In: **International Conference on the Advancement in Science and Technology (iCAST 2015)**
- 2015 [Process development for maximum Lycopene production from selected fruit waste.](#) In: **Asian Congress on Biotechnology 2015 (ACB 2015)**

- 2015 [Production of tilapia fish gelatin nanoparticles.](#) In: **International Research, Invention and Innovation Exhibition 2015**
- 2015 [Effect of locality on carotenoids stability in Malaysian orange sweet potato \(Ipomoea batatas\) tuber flesh.](#) In: **International Postgraduate Network (IPN.org) and IWNEST (IPN-IWNEST 2015)**
- 2015 [Identification of total carotenoids and  \$\beta\$ -carotene content in different flesh tuber colours of local wweet potato \(Ipomoea batatas\) for pharmaceutical industry.](#) In: **International Postgraduate Network (IPN.org) and IWNEST (IPN-IWNEST 2015)**
- 2015 [Influence of harvesting season and post harvest storage time on carotenoid biosynthesis in Malaysian orange sweet potato \(ipomoea batatas\) tuber flesh.](#) In: **Asian Congress on Biotechnology 2015 (ACB 2015)**
- 2015 [Effect of abiotic stress on carotenoids accumulation in orange sweet potato calluses under light and dark conditions.](#) In: **Asian Congress on Biotechnology 2015 (ACB 2015)**
- 2015 [Novel source for formulation of nutritious fish feed .](#) In: **International Research, Invention and Innovation Exhibition 2015 (IRIIE 2015)**
- 2015 [Comparison of high pressure processing with chemical method to characterize astaxanthin profile from various species of shrimp carapace.](#) In: **Asian Congress on Biotechnology 2015 (ACB 2015)**
- 2015 [Influence of process parameters on bioprotein production from palm kernel cake and seaweed using solid state fermentation.](#) In: **Asian Congress on Biotechnology 2015 (ACB 2015)**
- 2014 [Potentiality of selected seaweed for the production of nutritious fish feed using solid state fermentation.](#) In: **27th SYMPOSIUM OF MALAYSIAN CHEMICAL ENGINEERS (SOMChE 2014) in conjunction with 21st REGIONAL SYMPOSIUM ON CHEMICAL ENGINEERING (RSCE 2014)**
- 2014 [Solid state bioconversion of seaweed for production of protein enriched fish feedstock.](#) In: **International Conference on Beneficial Microbes 2014 (ICOBM 2014)**
- 2014 [Dose-dependence of dietary antioxidants in their biological actions for research in human chronic diseases .](#) In: **International Research, Invention and Innovation Exhibition 2014 (IRIIE2014)**
- 2014 [New method for improving solubilization and uptake of lutein and carotenoids in human hepatocellular liver carcinoma \(HepG2\) cell culture .](#) In: **International Research, Invention and Innovation Exhibition 2014 (IRIIE2014)**
- 2014 [Identification of total carotenoids and  \$\beta\$ -carotene content in local sweet potato \(Ipomoea Batatas\) for Halal pharmaceutical industry .](#) In: **Malaysia International Halal Research & Education Conference 2014 (MIHREC 2014)**
- 2014 [FTIR spectroscopy investigation of "Istihalah" during gelatin production.](#) In: **Malaysia International Halal Research & Education Conference 2014 (MIHREC 2014)**

- 2013 [IIUM-fabricated portable electronic nose for halal authentication in beverages](#) . In: **The 4th International Conference on Information & Communication Technology for the Muslim World (ICT4M)**
- 2013 [Preliminary evaluation of microbiological quality in fried rice sold in Kuantan city, Malaysia](#). In: **13th ASEAN Food Conference 2013**
- 2013 [Anticancer potential of agarwood distillate](#). In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [Agarwood distillate: Safe for oral consumption](#). In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [Effect of season and storage period time towards accumulation of individual carotenoid content in pumpkin flesh \(Cucurbita moschata\)](#). In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [Gaharu \(agarwood\) distillate-incorporated roselle health drink](#). In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2013**
- 2013 [Gaharu \(Agarwood, aquilaria subintegra\): A potential source of anticancer and antiinflammatory compounds](#). In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2013**
- 2013 [Novel carotenoids from local pumpkin \(Cucurbita moschata\): Effect of storage and temperature in post harvest handling](#). In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2013**
- 2012 [Screening for Pectin and making of jam from potential parts of honeydew fruit](#). In: **Environmental Health Issues : A Holistic View**
- 2012 [Production of a novel jam spread from honeydew fruit skin by using response surface method](#). In: **2nd Malaysian International Conference on Trends in Bioprocess Engineering**
- 2012 [Carotenoid content in pumpkin from different locality in Malaysia](#). In: **PharmaTech 2012 : International Conference and Exhibition on Pharmaceutical, Nutraceutical and Cosmeceutical Technology**
- 2011 [Effect of homogenization in breaking protein-carotenoid complexes for releasing active compounds](#) . In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2011**
- 2011 [Optimization of process condition for isolation of Glutathione \(GSH\) from garlic bulbs](#). In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2011**
- 2011 [Novel plant-based gelatin replacers](#). In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2011**
- 2011 [Extraction of astaxanthin from shrimps by-products through fermentation process](#). In: **International Health Conference IIUM 2011**
- 2011 [Optimization of supercritical fluid carbon dioxide extraction of fish oil yield from tongue sole \(cynoglossus lingue\) applying response surface methodology](#). In: **International Health Conference IIUM 2011**

- 2011 [Isolation of fucoxanthin and fatty analysis from Padina australis and cytotoxicity effect of fucoxanthin of human lung cancer \(H1299\) cell lines.](#) In: **Proceedings of the 2nd International Conference on Biotechnology Engineering ICBioE'11**
- 2011 [The importance of a standardized Islamic manufacturing \(IMP\) for food and pharmaceutical productions.](#) In: **2nd International Conference on Professional Ethics and Education in Engineering 2011 (ICEPEE'11)**
- 2011 [Nano-structural analysis of fish collagen extracts for new process development.](#) In: **2nd International Conference on Biotechnology Engineering (ICBioE 2011)**
- 2011 [Scheme of obtaining  \$\beta\$ -carotene standard from pumpkin \(\*Cucurbita moschata\*\) flesh.](#) In: **2nd International Conference on Biotechnology Engineering (ICBioE 2011)**
- 2010 [Fatty acid, mineral and heavy metal contents of different Malaysia fish species.](#) In: **IUM Research, Innovation & Invention Exhibition (IRIIE 2010)**
- 2010 [Finogel - halal nanomaterials from fish collagen extracts.](#) In: **IUM Research, Innovation & Invention Exhibition (IRIIE 2010)**
- 2010 [New method for improving solubilization and uptake of lutein and beta-carotene in human hepatocellular liver carcinoma \(HepG2\) cell culture.](#) In: **International Conference on Cellular & Molecular Bioengineering (ICCMB)**
- 2010 [Extraction and purification of fucoxanthin from Malaysian brown seaweeds.](#) In: **9th International Annual Symposium on Sustainability and Management (UMTAS)**
- 2010 [Nanostructural analysis of finogel \(Fish Nano Gelatin\) for new process development.](#) In: **International Conference on Process Engineering and Advanced Materials 2010 (ICPEAM2010)**
- 2010 [Physico-chemical characteristics of pectin from mango peels.](#) In: **3rd International Conference on Advancement in Science and Technology (iCAST) 2010**
- 2009 [Omega-3 and omega-6 fatty acids as food supplements from marine fishes of Tuba Island, Langkawi, Malaysia.](#) In: **Kulliyah of Engineering Research and Innovation Exhibition (KERIE 2009)**
- 2009 [New Method for Improving solubilization and uptake of lutein and carotenoids in human hepatocellular liver carcinoma \(HepG2\) cell culture.](#) In: **Kulliyah of Engineering Research and Innovation Exhibition (KERIE 2009)**
- 2009 [Special oils for halal cosmetics.](#) In: **3rd IMT-GT International Symposium on Halal Science and Management 2009**
- 2009 [Overview of alternative ingredients in halal products.](#) In: **3rd IMT-GT International Symposium on Halal Science and Management 2009**
- 2009 [Improvement of solubilization and uptake of dietary antioxidants in human hepatocellular liver carcinoma \(HepG2\) cell line \(PDNP4\).](#) In: **International Palm Oil Congress (PIPOC 2009)**

- 2009 [Integrasi nilai Islam dalam muatan pendidikan : catatan pengalaman mengajar di IIUM.](#) In: **Seminar Internasional Pendidikan Berbasis Nilai-Nilai Islami (Islamic Values-Based Education)**
- 2009 [Rapid analytical technique for non-Halal determination of leather and leather products.](#) In: **10th Asian Conference on Analytical Sciences (ASIANALYSIS X)**
- 2009 [Mathematical modeling of lipid peroxidation reactions of vegetable oil with phytochemical antioxidant treatment during frying..](#) In: **5th International Technical Symposium on Food Processing, Monitoring Technology in Bioprocessing and Food Quality Management**
- 2009 [Production of high quality halal gelatins through enzymatic process.](#) In: **Kulliyah of Engineering Kerie 2009 Research and Innovation Exhibition (KERIE); Programme book**

**Book  
Book Section**

- 2020 [Camel gelatin composition, properties, production, and applications.](#) In: **Health and environmental benefits of camel products** IGI Global . ISBN 9781799816041 , pp.306-327
- 2019 [Halal food security: forensic and laboratory management.](#) In: **Societal dimensions of environmental science** CRC Press , pp.117-129
- 2016 [Study on Muslim-friendly hospitality in Malaysia.](#) In: **Contemporary Issues and Development in the Global Halal Industry Part I** Springer . ISBN 978-981-10-1450-5 , pp.59-66
- 2016 [An overview of the current analytical methods for halal testing.](#) In: **Contemporary Issues and Development in the Global Halal Industry Part II** Springer . ISBN 978-981-10-1450-5 , pp.291-300
- 2011 [Detection of ethanol in beverages using an electronic nose .](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.130-136
- 2011 [Extraction and characterization of astaxanthin from marine sources .](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.154-158
- 2011 [Extraction of fish collagen using enzymatic process.](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.159-165
- 2011 [Mechanical properties of a gelatin replacer, pectin, from banana and mango peels .](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.173-181
- 2011 [Techniques of extraction and purification of Fucoxanthin from brown seaweeds.](#) In: **Experimental methods in modern biotechnology** IIUM Press . ISBN 9789670225869 , pp.50-64
- 2011 [Fundamentals of proximate analysis in food products.](#) In: **Experimental methods in modern biotechnology** IIUM Press . ISBN 9789670225869 , pp.65-80



- 2011 [Fish gelatin production: extraction method and quality analysis.](#) In: **Experimental methods in modern biotechnology** IIUM Press . ISBN 9789670225869 , pp.81-95
- 2011 [Mechanical improvement of halal gelatin from marine sources .](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.222-228
- 2011 [Optimization of phytochemical antioxidants in RBD palm olein during frying process.](#) In: **Current research and development in biotechnology engineering at IIUM (Volume III)** IIUM Press . ISBN 9789674181444 , pp.219-225
- 2011 [Performance of artificial antioxidants In RBD Palm Olein during deep-fat frying.](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.229-236
- 2011 [Physico-chemical properties of collagen extracts from two local fish species.](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.237-241
- 2011 [Process optimization of hydrocolloid production from seaweeds.](#) In: **Current research and development in biotechnology engineering at IIUM** IIUM Press . ISBN 9789674181444 , pp.237-243
- 2011 [Production of carrageenan from Malaysian seaweed.](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.272-278
- 2011 [Production of gelatin replacers from Malaysian tuberous plants.](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.279-284
- 2011 [Screening and evaluation of anticancer property in mango fruit mangifera indica .](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.16-22
- 2011 [Sensory evaluation and contamination test on mango fruit \(Mangifera indica\) puree.](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.23-29
- 2011 [Effect of homogenization in breaking protein-carotenoid complexes for releasing active compounds.](#) In: **Current research and development in biotechnology engineering at IIUM** IIUM Press . ISBN 9789674181444 , pp.285-295
- 2011 [Solubilization of Vitamin E in culture medium and its antioxidant activity.](#) In: **Current Research and Development in Biotechnology Engineering at IIUM** IIUM Press . ISBN 978-967-418-151-2 , pp.342-347
- 2011 [Optimization of heat sterilization on mango fruit \(mangifera indica\) puree and effects towards cancer treatment.](#) In: **Current research and development in biotechnology engineering at IIUM** IIUM Press . ISBN 9789674181444 , pp.25-32