

# YUMI ZUHANIS HAS-YUN BT. HASHIM



- INTERNATIONAL INSTITUTE FOR HALAL RESEARCH AND TRAINING
- IIUM Gombak Campus
- Email address: [yumi@iium.edu.my](mailto:yumi@iium.edu.my)

## ACADEMIC QUALIFICATION

- Doctor of Philosophy in Nutrition Biochemistry & Food Technology
- Master of Engineering (Bioprocess)
- Bachelor of Biomedical Sciences (Hons.)

## TEACHING RESPONSIBILITIES

ARTIFICIAL TISSUE ENGINEERING	2016/2017 2017/2018
BIOTECHNOLOGY ENGINEERING LAB IV	2009/2010 2010/2011 2011/2012
CELL AND MOLECULAR BIOLOGY	2002/2003
CELL AND TISSUE ENGINEERING	2009/2010 2010/2011 2011/2012 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018
ENGIN. ASPECT OF ANIMAL & PLANT CELL CULTURE	2008/2009 2009/2010 2015/2016 2016/2017
GENOMICS AND FUNCTIONAL GENOMICS	2009/2010 2010/2011 2011/2012 2013/2014
NATURAL PRODUCTS, NUTRACEUTICALS & FUNCT. FOODS	2009/2010 2010/2011 2011/2012 2012/2013 2013/2014 2015/2016
SEMINAR	2014/2015 2019/2020

## RESEARCH PROJECTS

### In Progress

- 2019 - Present** - Geo-tourism Destination (GTD) Framework Based on Sustainable Development Goals and Maqasid Shariah
- 2019 - Present** - Dyes Adsorption Using Hybrid Aerogel-Based Cellulose Nanocrystal Isolated From Palm Oil Biomass
- 2019 - Present** - Deciphering the mechanism of action of polymyxins on pentose phosphate pathway metabolism in *Acinetobacter baumannii* in discovering novel antibiotic targets

- 2019 - Present**    Revealing Agarwood-based Prescription(s) Documented in Malay Medical Manuscripts
- 2019 - Present**    Bioactive compounds of *A.malaccensis* leaf and their mechanistic roles in inflammation and immunomodulation in zebrafish model
- 2018 - Present**    Antibacterial activity of phenolic compounds from *Carica papaya* seed extract as food preservative.
- 2018 - Present**    Investigation of Azafluorenone Compounds from *Alphonsea* SPP Against Breast Cancer Cell
- 2018 - Present**    Synergistic killing of novel combinations of `old? polymyxin drug and medicinal plant extracts targeting Gram-negative bacteria
- 2018 - Present**    Synergistic killing of novel combinations of `old? polymyxin drug and medicinal plant extracts targeting Gram-negative bacteria
- 2017 - Present**    Investigation of Chemical Composition of *Alphonsea Cylindrica* (Annonaceae) and its Potential Against MCF-7 Breast Cancer Cells
- 2017 - Present**    Fractionation and partial purification of active compounds from agarwood branch extract responsible for the cytotoxic/anticancer activity
- 2016 - Present**    Development of a Parallel biosensing system for personalized and pointof-care chemotherapy treatment
- 2015 - Present**    The Effect of Direct Irradiation of Excited Gas Discharge Using Micro Hollow Plasma To Skin Cancer Cells For Acceleration of Apoptosis
- 2015 - Present**    Lung Cancer Volatile Bio-marker Detection Using Novel Nanosensor Array
- 2006 - Present**    New Name: Bio-Process and Molecular Engineering Research Unit (BPMERU)  
Biomolecular Engineering Research Unit (BioMERU)
- 2006 - Present**    Bio-Process and Molecular Engineering Research Unit (BPMERU)

**Completed**

- 2018 - 2018**    Investigation of Azafluorenone Compounds from *Alphonsea* SPP Against Breast Cancer Cell
- 2017 - 2019**    Fractionation and partial purification of active compounds from agarwood branch extract responsible for the cytotoxic/anticancer activity
- 2016 - -1**    Investigation of Oxoaporphine Compounds from *Platymitra Siamensis* Craib (Annonaceae)as Anticancer Agent
- 2015 - 2018**    Characterization of Halal and Non-Halal Animal Bones As Raw Material for Gelatin and Gelatin Based Products
- 2014 - 2018**    Extraction of Gaharu Oil from *Aquilaria Malaccensis* using Subcritical Extraction Process
- 2013 - 2016**    Gene Expression Study of Cytotoxic Properties of Agarwood Branch Extract

- 2013 - 2015** Transferring Knowledge and Skill on Halal Consumerism to the Orang Asli Community
- 2012 - 2015** Isolation and Characterization of Bacterial Strain Producing L-Asparaginase from Local Hot Spring
- 2012 - 2013** Investigation of *Allium Sativum* L.(GARLIC) as an alternative source for glutathione and cysteine production.
- 2012 - 2016** Application of cDNA Microarray for Study of Halal vs Haram Fat Substances in HaCat Human Keratinocyte Cells
- 2012 - 2015** Proof of Concept for a Novel Real Time, Hardware base Cancer Chemotherapeutics Kit Using MEMS Biosensor
- 2012 - 2015** Discovery of the Primary and Secondary Metabolites Flux Distribution During Cell Growth of *Ficus deltoidea* Cell Suspension Culture
- 2012 - 2015** Hardware Implementation of a Novel Impedance Spectroscopy System for Cancer Cell Studies
- 2012 - 2013** Comparison of Extraction Method for IGFBP-3 Removal from CHO-K1 Spent Media
- 2011 - 2014** Inoculant Development and Studies of Health Beneficial Effects Gaharu
- 2011 - 2012** Development Of New Media Formulation For The Improvement Of Recombinant Protein Expression In E.Coli
- 2011 - 2012** Optimization of Process Conditions for Extraction of Xanthine Oxidase Inhibitor form Potential Malaysian Medicinal Plant
- 2011 - 2013** Growth Kinetics Study on MCF-7 Breast Cancer Cells Treated with Recombinant Bromelain
- 2011 - 2015** Upscaling of Gelatin Coated Microcarrier Beads Fabrication by Using Ultraviolet/Ozone (UVO) system
- 2011 - 2016** Development of GCMS-based Metabolomics (Global Metabolite Analysis)Platform/Tool Mammalian Cell Bioprocessing
- 2011 - 2012** Extraction of Plant Material for Discovery Anti-Cancer Properties
- 2011 - 2011** Identification Of Microbes Cocktail In Inoculants For Agarwood Resin (Gaharu) Formation And Production By Phenotyping And Genotyping Methods
- 2010 - 2012** Investigation of Effects of Different Media on CHO Cell Growth and Production of IGFI
- 2009 - 2012** Halal Certification training for Main Kazakhstan
- 2009 - 2012** Production of L-cysteine from Various Parts of Garlic Plant"
- 2009 - 2012** Global Metabolite Analysis of CHO Cells Cultured in T-Flasks and Bioreactor using Gas Chromatography-Mass Spectrometry
- 2009 - 2012** Study on the Mode of Action of Tomato Leaves Extract for its anti-Inflammatory Activity in Murine Macrophages RAW264.7 Cell

- 2009 - 2012** Studies on Effect(s ) of Glutamine and/or Serum on CHO Cell Growth in Bioreactor Culture Focusing on the Insulin-like Growth Factor (IGF) Pathway
- 2006 - 2013** International Institute for Halal Research and Training (INHART)

## PUBLICATIONS

### Article

- 2019** [Induction of apoptosis and cell cycle arrest in two human cancer A549 and HT29 cells lines by Barhi date palm kernels extracts and three isolated cytotoxic compounds.](#) Preprint pp.1-37
- 2019** [Oxoaporphine alkaloids from the barks of Platymitra siamensis Craib \(Annonaceae\) and their cytotoxicity against MCF-7 cancer cell line.](#) Journal of Research in Pharmacy , 23 (2) pp.217-223
- 2019** [Uninfected agarwood branch extract possess cytotoxic and inhibitory effects on MCF-7 breast cancer cells.](#) Journal of Research in Pharmacy , 23 (1) pp.120-129
- 2019** [Fabrication and characterization of plant mediated green zinc nanoparticles for antileishmanial properties.](#) International Journal of Recent Technology and Engineering(TM) , 8 (2) pp.5743-5749
- 2019** [Hydrodistillation and soxhlet extraction of agarwood leaf extract from Aquilaria malaccensis.](#) Malaysian Journal of Fundamental and Applied Science , 15 (6) pp.842 -846
- 2019** [Anticancer potential and chemical profile of agarwood hydrosol.](#) Malaysian Journal of Fundamental and Applied Sciences , 15 (5 (September-October)) pp.761-766
- 2019** [Alkaloids from Popowia perakensis and their dipeptidyl peptidase IV\(DPP IV\) inhibitors.](#) Research Journal of Pharmacy and Technology , 12 (1) pp.113-116
- 2018** [Antioxidative and cytotoxic activities of crude and isolated compounds of Polyalthia lateriflora \(Bl.\) King.](#) Journal of Pharmaceutical Sciences and Research , 10 (11) pp.2718-2721
- 2018** [Surface modification of microporous of polycaprolactone \(PCL\) microcarrier to improve microcarrier biocompatibility.](#) International Journal on Advanced Science, Engineering and Information Technology , 8 (4-2) pp.1642-1647
- 2018** [Alkaloids from Alphonsea elliptica barks and their biological activities.](#) Journal of Global Pharma Technology , 10 (8) pp.270-275
- 2018** [In vitro cancer cell line classification using pattern recognition approach based on metabolite profiling.](#) Journal of Telecommunication, Electronic and Computer Engineering , 10 (1-16) pp.63-17
- 2018** [Surface modification of microporous of polycaprolactone \(PCL\) microcarrier to improve microcarrier biocompatibility.](#) International Journal on Advanced Science, Engineering and Information Technology , 8 (4-2) pp.1642-1647
- 2018** [A study on volatile organic compounds emitted by in-vitro lung cancer cultured cells using gas sensor array and SPME-GCMS.](#) BMC Cancer , 18 (1) pp.1-17

- 2018** [Aquilaria malaccensis leaf as an alternative source of anti-inflammatory compounds.](#) International Journal on Advanced Science Engineering and Information Technology , 8 (4-2) pp.1625-1632
- 2018** [Agarwood leaf essential oil characterization and effects on MCF-7 breast cancer cells.](#) International Journal on Advanced Science, Engineering and Information Technology , 8 (4-2) pp.1604-1609
- 2018** [Development of porous PCL-based microcarrier.](#) International Journal on Advanced Science, Engineering and Information Technology , 8 (4-2) pp.1648-1653
- 2017** [Toxicity studies of agarwood essential oil in vero cells using electrical impedance sensor.](#) Malaysian Journal of Fundamental and Applied Sciences pp.540-545
- 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** [Different oxidation treatments on polystyrene \(PS\) microspheres by using an ultraviolet/ozone \(UVO3\) system.](#) Proceedings of the Pakistan Academy of Sciences: B. Life and Environmental Sciences , 54 (1B) pp.55-59
- 2017** [Statistical optimization of gelatin immobilization on modified surface PCL microcarrier to improve PCL microcarrier compatibility.](#) Jurnal Teknologi , 79 (6) pp.167-175
- 2017** [Quantification of total phenolic compounds in papaya fruit peel.](#) Pertanika Journal of Tropical Agricultural Science , 40 (1) pp.87-98
- 2017** [Content cytotoxicity studies of colorectal carcinoma cells using printed impedance sensors.](#) Bulletin of Electrical Engineering and Informatics , 6 (4) pp.317-326
- 2017** [Different oxidation treatments on polystyrene \(PS\) microspheres by using an ultraviolet/ozone \(UVO3\) system.](#) Proceedings of Pakistan Academy of Sciences: B. Life and Environmental Sciences , 54 (B) (1) pp.59-64
- 2017** [Cytokinetic study of uninfected agarwood branch ethanolic extract on breast cancer cells.](#) Asia Pacific Journal of Molecular Biology and Biotechnology , 25 (1) pp.1-7
- 2017** [Optimization of ultraviolet ozone treatment process for improvement of polycaprolactone \(PCL\) microcarrier performance.](#) Cytotechnology , 69 (4) pp.601-616
- 2017** [Statistical optimization of gelatin immobilisation on modified surface PCL microcarrier to improve PCL microcarrier compatibility.](#) Jurnal Teknologi , 79 (6) pp.167-175
- 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** [Different oxidation treatments on polystyrene \(PS\) microspheres by using an ultraviolet/ozone \(UVO3\) system.](#) Proceedings of Pakistan Academy of Sciences , 54 (1B) pp.59-65
- 2017** [Statistical optimization of gelatin immobilisation on modified surface of PCL microcarrier to improve its compatibility.](#) Jurnal Teknologi , 79 (6) pp.167-175

- 2016** [Aquilaria spp. \(agarwood\) as source of health beneficial compounds: A review of traditional use, phytochemistry and pharmacology.](#) Journal of Ethnopharmacology , 189 pp.331-360
- 2016** [Quantification of total phenolic compounds in papaya \(carica papaya\) peels.](#) Pertanika Journal of Tropical Agricultural Science , 40 (1) pp.1-14
- 2016** [Profiling of extracellular metabolites in CHO-K1 cells cultured in medium with different levels of serum and glutamine.](#) Current Metabolomics , 4 (1) pp.56-62
- 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
- 2015** [Ultraviolet/ozone treated polystyrene microcarriers for animal cell culture.](#) Journal of Chemical Technology and Biotechnology
- 2015** [A preliminary study on detection of lung cancer cells based on volatile organic compounds sensing using electronic nose .](#) Jurnal Teknologi , 77 (7) pp.67-71
- 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** [Anti-cancer potential of agarwood distillate.](#) Journal of Pure and Applied Microbiology , 8 (Sp. ed) pp.871-874
- 2014** [The study of cell attachment and spreading on polyaniline and gelatin using electric cell-substrate impedance sensing.](#) Journal of Pure and Applied Microbiology , 8 (sp.ed) pp.827-831
- 2014** [Cloning and expression of a novel phytase gene \(phyMS\) from Mycobacterium smegmatis.](#) Advances in Enzyme Research , 2 (1) pp.27-38
- 2014** [Gene expression analysis in MCF-7 breast cancer cells treated with recombinant bromelain.](#) Applied Biochemistry and Biotechnology , 173 (7) pp.1618-1639
- 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** [Screening of anticancer activity from agarwood essential oil.](#) Pharmacognosy Research , 6 (3) pp.191-194
- 2014** [Pathway analysis of genes affected in MCF-7 breast cancer cells treated with recombinant bromelain.](#) Journal of Pure and Applied Microbiology , 8 (s.ed 1) pp.681-689
- 2014** [Production of cysteine: approaches, challenges and potential solution .](#) International Journal of Biotechnology for Wellness Industries , 3 (3) pp.95-101
- 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** [Virgin olive oil phenolics extract inhibit invasion of HT115 human colon cancer cells in vitro and in vivo.](#) Food and Function , 5 (7) pp.1513-1519

- 2014** [Ultrasonic-assisted extraction of thiols from garlic bulbs.](#) Advances in Environmental Biology , 8 (3) pp.725-728
- 2014** [Effects of glutamine and serum on IGF- dependent cho-K1 cell growth in T-Flask.](#) Advances in Environmental Biology , 8 (3 ( Special Issue )) pp.831-837
- 2014** [Analysis of chemical compounds of agarwood oil from different species by gas chromatography mass spectrometry \(GCMS\).](#) IIUM Engineering Journal , 15 (1) pp.55-60
- 2014** [Comparison of two total RNA extraction protocols from CHO-K1 cells for RT-PCR: cutoff cost for researchers.](#) IIUM Engineering Journal , 15 (1) pp.33-39
- 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
- 2014** [Cytokinetics study on MCF-7 cells treated with commercial and recombinant bromelain.](#) Asian Pacific Journal of Cancer Prevention , 14 (11) pp.6709-6014
- 2014** [Development and improvement of anti-gout property from aqueous-methanol extract of morinda elliptica using central composite design.](#) Advances in Environmental Biology , 8 (3) pp.734-743
- 2013** [Metabolomics profiling of extracellular metabolites in CHO-K1 cells cultured in different types of growth media.](#) Cytotechnology , 65 (4) pp.577-586
- 2013** [Microarray and quantitative PCR analysis of gene expression profiles in response to treatment with tomato leaf extract in MCF-7 breast cancer cells.](#) Asian Pacific Journal of Cancer Prevention , 13 (12) pp.6319-6325
- 2012** [A rapid method for large sample number extraction of proteins from mammalian cells.](#) Regenerative Research , 1 (2) pp.49-55
- 2012** [Serum in mammalian cell culture: weighing the challenges of bioprocessing, ethics and animal welfare.](#) Advances in Natural and Applied Sciences , 6 (5) pp.596-600
- 2012** [Scheme of obtaining  \$\beta\$ -carotene standard from pumpkin \(Cucurbita moschata\) flesh .](#) International Food Research Journal , 19 (2) pp.531-535
- 2011** [Phytochemical screening for antibacterial activity of potential Malaysian medicinal plants.](#) African Journal of Biotechnology , 10 (81) pp. 18795-18799
- 2011** [Preliminary investigation of Myo-Inositol Phosphates produced by Asuia279phytase on Mcf-7 cancer cells..](#) IIUM Engineering Journal , 12 (4) pp.141-151
- 2011** [Chinese hamster ovary \(CHO-K1\) cells expressed native insulin-like growth factor-1 \(IGF-1\) gene towards efficient mammalian cell culture host system .](#) African Journal of Biotechnology , 10 (81) pp.18716-18721
- 2011** [Determination of IGF-1-producing CHO-K1 growth phases using GCMS-based global metabolite analysis.](#) IIUM Engineering Journal , 12 (4) pp.89-98
- 2011** [Safe=\(Halal + Toyyebah\): personal care products, please! Muslim consumers are still facing dilemma in choosing halal cosmetics....](#) Halal Pages 2011/2012 pp.60-65

- 2011 [Preliminary investigation of MYO-INOSITOL phosphates produced by ASUIA279PHYTASE on MCF-7 cancer cells.](#) IIUM Engineering Journal , 12 (4) pp.1-11
- 2010 [The beautiful Halal.](#) Halal Pages 2010/2011 pp.20-24
- 2010 [Effects of menstrual cycle phase on metabolomic profiles in premenopausal women.](#) Human Reproductive , 25 (4) pp.949-956
- 2010 [Comparing BRIN-BD11 culture producing insulin using different type of microcarriers.](#) Cytotechnology , 62 pp.423-430
- 2009 [Halal cosmeceuticals: the vogue and the vague.](#) Halal Pages 2009/2010 pp.50-55
- 2008 [Comparison of alcohol free GSH production by ultrasonic and homogenizing method.](#) Iranian Journal of Chemistry & Chemical Engineering , 27 (4) pp.107-113
- 2008 [Monoclonal antibody production: media optimization for enhancement the cell viability of hybridoma cell.](#) Asian Journal of Scientific Research , 1 (5) pp.525-531
- 2007 [Inhibitory effects of olive oil phenolics on invasion in human colon adenocarcinoma cells in vitro.](#) International Journal of Cancer , 122 (3) pp.495-500
- 2005 [Comparison studies among the methods used in isolating the GSH from baker yeast.](#) Journal of Applied Sciences , 5 (1) pp.151-154

#### **Conference or Workshop Item**

- 2019 [Antibacterial test, toxicity and food application of plant seed extracts: a review.](#) **In: Global Halal Sphere Conference 2019 (GloHaS 2019)**
- 2018 [Anti-inflammatory activity exhibited by supercritical fluid extract of aquilaria malaccensis leaves.](#) **In: International Conference on Halal Innovation in Products and Services 2018 (i-CHIPS 2018)**
- 2018 [Agarwood \(A. malaccensis\) leaf as an alternative Halal source of anti-inflammatory compounds.](#) **In: International Conference on Halal Innovation in Products and Services 2018 (i-CHIPS 2018)**
- 2018 [Development of porous PCL-based microcarrier.](#) **In: International Conference on Halal Innovation in Products and Services 2018 (i-CHIPS 2018)**
- 2018 [Electrospun Poly \(Vinyl Alcohol\) \(PVA\) fiber mats as carriers for extract from agarwood branch.](#) **In: International Conference on Halal Innovation in Products and Services 2018 (i-CHIPS 2018)**
- 2018 [Rough hollow mesoporous silica nanoparticles as carrier for agarwood oil to treat cancer cells.](#) **In: International Conference Biotechnology Engineering, ICBioE '18**
- 2018 [Antioxidant activities of agarwood hydrosol.](#) **In: International Conference on Halal Innovation in Products and Services 2018 (i-CHIPS 2018)**
- 2018 [Surface modification of microporous polycaprolactone \(PCL\) microcarrier to improve microcarrier biocompatibility.](#) **In: International Conference on Halal Innovation in Products and Services 2018 (i-CHIPS 2018)**



- 2018 [Surface modification of polycaprolactone \(PCL\) microcarrier for performance improvement of human skin fibroblast cell culture.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering 2017 (ICAMME17)**
- 2018 [Metabolite profiling of leaves and branch of Aquilaria sp..](#) In: **5th International Conference on Biotechnology Engineering (ICBioE 2018)**
- 2017 [Feature extraction techniques using multivariate analysis for identification of lung cancer volatile organic compounds.](#) In: **"11th Asian Conference on Chemical Sensors, ACCS 2015"**
- 2017 [Toxicity studies of natural product in vero cells using impedance monitoring.](#) In: **International Medical Device and Technology Conference (iMEDiTEC 2017)**
- 2017 [Bioprospecting of agarwood: beyond its role in perfumery industry.](#) In: **International Malaysian-French Scientific Conference (IMFSC 2017): Inspired by nature, delivered through science for a better world**
- 2017 [Extraction and profiling of agarwood \(Aquilaria malaccensis\) leaves extract.](#) In: **International Malaysian-French Scientific Conference (IMFSC 2017): Inspired by nature, delivered through science for a better world**
- 2016 [Transferring Halal knowledge and consumerism to the Orang Asli community.](#) In: **International Conference on Knowledge Transfer (ICKT 2015)**
- 2016 [Differential gene expression in MCF-7 breast cancer cells treated with agarwood branch ethanolic extract: a study using RT2 profiler array.](#) In: **International Conference On Natural Products (ICNP 2016)**
- 2016 [Metabolite profiling of healthy agarwood \(Aquilaria subintegra\) branches using GCMS.](#) In: **International Conference on Natural Products 2016 (ICNP 2016)**
- 2016 [Potential antioxidant activity of Aquilaria subintegra leaves.](#) In: **2nd International Scientific Symposium on Agarwood**
- 2016 [Differential gene expression in HaCaT skin keratinocyte cells treated with Halal and Non-halal fats and oil: a study using cDNA microarray.](#) In: **3rd International Halal Conference (INHAC 2016)**
- 2016 [Cytokinetic study of uninfected agarwood branch ethanolic extract on breast cancer cells.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 2016 [Statistical optimization of gelatin immobilization to improve PCL microcarrier surface.](#) In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 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)**
- 2015 [Anticancer activity of agarwood distillates on lung cancer cells.](#) In: **ASIAN Congress on Biotechnology 2015**
- 2015 [Application of cDNA microarray in halal research.](#) In: **International Conference of Quran and Sunnah**

- 2015 [Development of Halal education amongst children of orang asli community: a case study of knowledge transfer program.](#) In: **1st International Conference on Educational Studies (ICES-2015)**
- 2015 [Process development for maximum Lycopene production from selected fruit waste.](#) In: **Asian Congress on Biotechnology 2015 (ACB 2015)**
- 2015 [Modification of Polycaprolactone microspheres surface by ultra violet/ozone treatment to improve its hydrophilicity.](#) In: **1st UMM International Conference on Pure and Applied Research (UMM-ICoPAR)**
- 2015 [Different oxidation treatments on polystyrene \(PS\) microspheres by using an ultraviolet/ozone \(UVO3\) system.](#) In: **1st UMM International Conference on Pure and Applied Research (UMM-ICoPAR)**
- 2014 [Chitosan microcarriers in mammalian cell culture.](#) In: **International Conference on Biological, Chemical and Environmental Sciences (BCES-2014)**
- 2014 [A preliminary study on in-vitro lung cancer detection using e-nose technology .](#) In: **4th IEEE International Conference on Control Systems, Computing and Engineering (ICCSE 2014)**
- 2014 [Anti-cancer activity of un-inoculated agarwood branch against MCF-7 breast cancer cells.](#) In: **5th International Conference on Biotechnology for the Wellness Industry**
- 2014 [Cancer detection using an electronic nose: A preliminary study on detection and discrimination of cancerous cells.](#) In: **2014 IEEE International Conference on Biomedical Engineering and Sciences**
- 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**
- 2013 [Production of natural carotenoid pigments from pumpkin as Halal food colorants and Active Pharmaceutical Ingredients \(API\).](#) In: **International Conference And Exposition On Invention Of Institutions Of Higher Learning (PECIPTA 2013)**
- 2013 [Anticancer potential of agarwood distillate.](#) In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [Pathway analysis of genes affected in MCF-7 breast cancer cells treated with recombinant bromelain.](#) In: **3rd International Conference on Biotechnology Engineering 2013 (ICBioE 2013)**
- 2013 [Agarwood distillate: Safe for oral consumption.](#) In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [GCMS-based global metabolite analysis approach distinguishes CHO-K1 cells cultured in different levels of serum and glutamine.](#) In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**

- 2013 [The study of cell attachment and spreading on polyaniline and gelatin using electric cell-substrate impedance sensing.](#) In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [Ultrasonic-assisted extraction of thiols from garlic bulb.](#) In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [Health benefits of gum arabic as natural halal food ingredient and emulsifying agent.](#) 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 [Identification of microbes in inoculants for agarwood \(gaharu\) formation using molecular biological techniques.](#) In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [Effects of glutamine and serum on IGF-I dependent CHO-K1 cell growth in T-flask.](#) In: **3rd International Conference on Biotechnology Engineering 2013 (ICBioE 2013)**
- 2013 [Studies on the process condition that affect the size of polystyrene microcarrier by an emulsion solvent evaporation process.](#) In: **3rd International Conference on Biotechnology Engineering (ICBioE 2013)**
- 2013 [Development of polystyrene microcarrier by an emulsion solvent evaporation process.](#) In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2013**
- 2013 [Gaharu \(agarwood\) distillate-incorporated roselle health drink.](#) In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2013**
- 2013 [Fabrication of gelatin coated polycaprolactone \(PCL\) microspheres for cell culture application.](#) In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2013**
- 2012 [Antimicrobial activities of agarwood \*A.subintegra\* leaves extract..](#) In: **11th International Annual Symposium on Sustainability Science and Management, UMTAS (2012)**
- 2012 [Screening of anticancer activity from agarwood essential oil..](#) In: **Malaysian International Conference on Trends in Bioprocess Engineering, MICOTribe (2012)**
- 2012 [Metabolite profiles of agarwood leaves aqueous extracts..](#) In: **4th Australasian Metabolomics Symposium 2012,**
- 2012 [Carotenoid content in pumpkin from different locality in Malaysia.](#) In: **PharmaTech 2012 : International Conference and Exhibition on Pharmaceutical, Nutraceutical and Cosmeceutical Technology**
- 2011 [Optimization of process condition for isolation of Glutathione \(GSH\) from garlic bulbs.](#) In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2011**

- 2011 [Optimization of Glutathione \(GSH\) production from selected Malaysian local fruits by ultrasonic method.](#) In: **IIUM Research, Invention and Innovation Exhibition (IRIIE) 2011**
- 2011 [Serum in mammalian cell culture: weighing the challenges of bioprocessing, ethics and animal welfare.](#) In: **2nd International Conference on Professional Ethics and Education in Engineering 2011 (ICEPEE'11)**
- 2011 [Effects of different types of growth media on metabolite profiles \(GCMS-based\) of CHO-K1 cells expressing IGF-1 proteins.](#) In: **2nd International Conference on Biotechnology Engineering (ICBioE 2011)**
- 2011 [Comparison of two total RNA extraction protocols from CHO-K1 cells for RT-PCR: cut-off cost for researcher.](#) In: **The 3rd Curtin University Technology, Science and Engineering (CUTSE)**
- 2011 [Phytochemical Screening for Antibacterial Activity of Potential Malaysian Medicinal Plants.](#) 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 [IGF-1 protein expression in cultured CHO cells.](#) In: **3rd IIUM-iCAST International Conference on Advancement in Science and Technology**
- 2010 [Special oils for halal and safe cosmetics.](#) In: **IIUM Research, Invention and Innovation Exhibition 2010 (IRIIE2010).**
- 2010 [Pathway analysis and primer design of selected genes up-regulated by Olive Oil Phenolics \(OVP\) treatment in colon cancer cells.](#) In: **3rd International Conference on Advancement in Science and Technology (iCAST 2010)**
- 2009 [A mechanistics investigation into the anti-invasive effects of olive oil phenolics.](#) In: **INTERNATIONAL CONFERENCE (ICBWI-INTRACOM '09)**
- 2009 [Special oils for halal cosmetics.](#) In: **3rd IMT-GT International Symposium on Halal Science and Management 2009**
- 2009 [The effects of different stages of the menstrual cycle on the the metabolomic profiles of urine and plasma in healthy women.](#) In: **Metabomeeting 2009**

#### Book

- 2015 [Koleksi pantun halal untuk kanak-kanak dan remaja.](#) IIUM Press . ISBN 9789674184094
- 2013 [Mengurai kelopak musim: sebuah catatan kembara ilmu.](#) Institut Terjemahan & Buku Malaysia Berhad . ISBN 9789674303563

#### Book Section

- 2018 [Secondary metabolite research in Malaysia: current status and future prospects.](#) In: **Secondary metabolites: sources and applications** IntechOpen . ISBN 978-1-78923-643-9 , pp.101-111
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