

# FARAHIDAH BINTI MOHAMED



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## المؤهل العلمي

- Ph.D in Pharmaceutical Sciences
- Bachelor of Science in Pharmacy
- Pharmaceutical Sciences

## مسؤوليات التدريس

ADVANCED DRUG DELIVERY SYSTEM	2013/2014 2014/2015
BIOPHARMACEUTICALS	2010/2011 2013/2014
DOSAGE DESIGN I	2013/2014 2018/2019
DOSAGE DESIGN II	2013/2014 2014/2015 2015/2016 2016/2017 2018/2019 2019/2020
DRUG DELIVERY AND TARGETING	2013/2014 2014/2015
DRUG DELIVERY SYSTEMS	2009/2010
Dosage Design I	2008/2009 2009/2010 2010/2011 2011/2012
Dosage Design II	2009/2010 2010/2011 2011/2012 2012/2013
Drug Delivery System	2010/2011 2011/2012 2012/2013
INDUSTRIAL PHARMACY	2013/2014 2014/2015 2015/2016 2016/2017 2017/2018 2018/2019
INDUSTRIAL PHARMACY AND REGULATIONS	2009/2010 2010/2011
ISLAMIC INPUT IN PHARMACY	2015/2016
PHARMACEUTICAL BIOTECHNOLOGY & BIOPHARMACEUTICAL	2013/2014 2014/2015 2015/2016
Pharmacokinetics and Biopharmaceutics	2008/2009 2010/2011
Physical Pharmacy II	2009/2010
QUALITY CONTROL	2013/2014
RESEARCH PROJECT 1	2013/2014 2014/2015 2016/2017
RESEARCH PROJECT 2	2014/2015
RESEARCH PROJECT-LITERATURE SEARCH	2012/2013 2013/2014 2014/2015

## المشاريع البحثية

**In Progress**

- 2019 - Present** Preparation, characterisation and cytotoxicity assay of damnacanthal-loaded polymeric nanocapsules for breast cancer therapy
- 2018 - Present** Reproducible Preparation of Thymoquinone Nanoparticles Using Electrospray
- 2018 - Present** Development of circuit simulator model for Negative Capacitance Field Effect Transistors for Low Power IoT Devices applications
- 2018 - Present** Black Seed Oil Alginate Beads
- 2017 - Present** Doxycycline Nanoemulsion
- 2017 - Present** Naso-mucosal absorption of neuronal drug by sol-to-gel delivery system to target brain: approach to dose reduction
- 2016 - Present** Antibiofilm and remineralisation study of novel, nano-fusion antibiotic paste for periodontitis
- 2016 - Present** Development and Formulation of a fixed dose combination of carbamazepine and gabapentin a Novel Approach to Increase Therapeutic efficacy for Peripheral Neuropathic Pain in Diabetic Patient
- 2016 - Present** Safety and Efficacy of Oral Emulsion and Implanted Beads of N. sativa-Gentamicin Antibiofilm Fusion for Osteomyelitis
- 2015 - Present** Tumor suppressor p73<sup>?</sup>-loaded PLGA/chitosan/Nigella sativa nanoparticles: A novel non-viral gene delivery system for oral squamous cell carcinoma therapy
- 2015 - Present** Prototype Development of Halal, Eco-Friendly Doxycycline-N sativa eugenol (DNE) Fusion as a novel Treatment for Periodontitis

**Completed**

- 2015 - 2017** Pilot Scale Production of Natural Halal Skin Lightening Cream Containing Extract of Hydroxychavicol from Piper betle Leaves
- 2013 - 2016** TRANS DISCIPLINARY PROGRAM: MAIN TITLE: FUSION CONCEPT BETWEEN CONTEMPORARY MEDICINE (GENTAMICIN) AND PROPHETIC MEDICINE (N.SAATIVA) FOR FUTURE 'GREENER' PHARMACEUTICAL Project Title:Effect of Gentamicin-N.Sativa Fusion Medicine on Osteoblast
- 2013 - 2017** Fusion Prophetic Medicine (Honey) and Contemporary Medicine (Paracetamol) as a Future Greener Pharmaceutical

- 2013 - 2015** TRANS DISCIPLINARY PROGRAM: MAIN TITLE: FUSION CONCEPT BETWEEN CONTEMPORARY MEDICINE (GENTAMICIN) AND PROPHETIC MEDICINE (N.SAATIVA) FOR FUTURE 'GREENER' PHARMACEUTICAL Project Title: Characterisation of Physiochemical Properties and Compatibility Testing of Gentamicin-N-Sativa Fusion
- 2013 - 2016** TRANS DISCIPLINARY PROGRAM: MAIN TITLE: FUSION CONCEPT BETWEEN CONTEMPORARY MEDICINE (GENTAMICIN) AND PROPHETIC MEDICINE (N.SAATIVA) FOR FUTURE 'GREENER' PHARMACEUTICAL Project Title:Effect of Gentamicin-N.Sativa Fusion Medicine on Osteoblast Cell Lines for Use in Osteo-Healing Applications
- 2013 - 2015** TRANS DISCIPLINARY PROGRAM (TRGS): MAIN TITLE: FUSION CONCEPT BETWEEN CONTEMPORARY MEDICINE (GENTAMICIN) AND PROPHETIC MEDICINE (N.SAATIVA) FOR FUTURE 'GREENER' PHARMACEUTICAL Project Title:Microbial Inhibition and Biofilm Assay Study Against Osteomyelitic Infection Using New Gentamicin-N.Sativa Fusion Medicine
- 2013 - 2015** TRANS DISCIPLINARY PROGRAM (TRGS): MAIN TITLE: FUSION CONCEPT BETWEEN CONTEMPORARY MEDICINE (GENTAMICIN) AND PROPHETIC MEDICINE (N.SAATIVA) FOR FUTURE 'GREENER' PHARMACEUTICAL Project Title:Microbial Inhibition and Biofilm Assay Study Against
- 2013 - 2016** Identification of Critical Elements for the Manufacturing of Halal Pharmaceuticals
- 2011 - 2014** Proof-of-concepts study of injectable non-viral gene delivery system of DNA-loaded N.Sativa/Chitosan/PLGA nanoparticle to neuro cell lines (Neurobionanoparticles-CR)
- 2011 - 2014** RU 2011 -Sythesis and characterization of Poly (D,L-lactide-Co-glycolide) based magnetic nanoparticles and to study their applications in drug delivery.
- 2011 - 2013** Comparative Study between Vegetarian Capsule and Bovine Hard Gelatin Capsule
- 2011 - 2014** Bio-equivalence Study of Generic Mefenamic Acid Capsule (IIUM Pharmacy) and Brand-name Mefenamic Acid Capsule (Ponstan)in Healthy Male Volunteers
- 2011 - 2014** Bio-equivalence Study of Generic Gliclazide Tablet (IIUM Pharmacy) and Brand-name Gliclazide Tablet (Diamicon)in Healthy Male Volunteers
- 2011 - 2013** Formulation and Testing of Syariah Compliant Generic Products (Amlodipine, Mefenamic Acid, Cetirizine, Gliclazide, Anti-Fungal Cream, Paracetamol Suspension)
- 2011 - 2014** Bio-equivalence Study of Generic Cetirizine Tablet (IIUM Pharmacy)and Brand-Name Cetirizine Tablet in Healthy Male Volunteers
- 2010 - 2011** Isolation and anticancer Evaluation of Mangostin from Garcinia Malaccensis
- 2010 - 2012** Microencapsulation of Cassia alata Extract for Topical Application.
- 2010 - 2012** Neuroregenerative And Neuroprotective Properties Of Haruan Traditional Extract For The Treatment Of Traumatic Brain Damage In Sprague Dawley Rats
- 2010 - 2012** Formulation of Malaysian Tualang Honey as Intraarticular Injection for Osteoarthritis
- 2010 - 2013** Comparative Study Between Bovine Hard Gelatin Capsule and Vegetarian Capsule

- 2010 - 2012** Development of Micro-carrier System Using Chitosan-PLGA Microspheres for Transfection into Bone Cell Line
- 2009 - 2012** Development of non-viral gene delivery system using chitosan PLGA microsphere for transfection on neuron cell line(s)

## المنشورات

### Article

- 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
- 2018** [ATR-FTIR and spectroscopic methods for analysis of black seed oil from alginate beads.](#) *International Journal of Applied Pharmaceutics* , 10 (5) pp.147-152
- 2018** [ATR-FTIR spectroscopic methods for analysis of black seed oil from alginate beads.](#) *International Journal of Applied Pharmaceutics* , 10 (5 (Sept.-Oct.)) pp.147-152
- 2018** [Topical co-delivery of indomethacin and nigella sativa L. essential oil in poly-cappa-caprolactone nanoparticles: in vitro study of anti-inflammatory activity.](#) *International Journal of Advanced Research* , 6 (4) pp.801-816
- 2018** [Comparative assessment of plasmid DNA delivery by encapsulation within or adsorbed on poly \(D, L-lactide-co-glycolide\) nanoparticles.](#) *Tropical Journal of Pharmaceutical Research* , 17 (1) pp.1-10
- 2017** [Screening the influencing factors of gentamicin-N. sativa oil emulsions \(GNE\) characteristic using Plackett-Burmann design \(PBD\).](#) *International Journal of Allied Health Sciences* , 1 (1 Special Issue: Enhancing Academic and Research Quality) pp.1-1
- 2017** [Fast and simple gas chromatographic method for simultaneous estimation of camphor, menthol and methyl salicylate in analgesic ointment: application in stability study.](#) *Journal of Pharmaceutical Investigation* pp.1-11
- 2017** [Comparative assessment of poly \(D, L-lactide-co-glycolide\) nanoparticles modified by either cetyltrimethylammonium bromide or chitosan for plasmid DNA adsorption.](#) *Tropical Journal of Pharmaceutical Research* , 16 (10) pp.2315-2324
- 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
- 2016** [Preparation, characterization and in vitro release study of BSA-loaded double-walled glucose-poly\(lactide-co-glycolide\) microspheres.](#) *Archives of Pharmacal Research* , 39 (9) pp.1242-1256
- 2016** [Co-encapsulation of Nigella sativa oil and plasmid DNA for enhanced gene therapy of Alzheimer's disease.](#) *Journal of Microencapsulation* , 33 (2) pp.114-126

- 2016** [Spectrophotometric determination of gentamicin loaded PLGA microparticles and method validation via ninhydrin-gentamicin complex as a rapid quantification approach.](#) Journal of Applied Pharmaceutical Science , 6 (1) pp.7-14
- 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** [Isolation of the biofilm producing bacteria from osteomyelitis patients at Hospital Tengku Ampuan Afzan \(HTAA\), Kuantan.](#) Malaysian Journal of Microbiology , 11 (4) pp.317-323
- 2015** [Effect of surfactants on plasmid DNA stability and release from Poly \(D, L-lactide-co-glycolide\) microspheres.](#) Tropical Journal of Pharmaceutical Research , 14 (10) pp.1769-1778
- 2015** [Confocal laser scanning microscope analysis on post-biofilm assessment of biofilmproducing osteomyelitic staphylococcus aureus treated with new gentamicin-nigella sativa fusion emulsion \(GNFE\).](#) Malaysian Journal of Microscopy , 11 pp.68-73
- 2015** [Method development and validation using UV spectrophotometry for Nigella sativa oil microparticles quantification.](#) Journal of Applied Pharmaceutical Science , 5 (9) pp.082-088
- 2014** [Cellular uptake of Nigella sativa oil-PLGA microparticle by PC12 cell line.](#) Journal of Microencapsulation , 31 (6) pp.600-608
- 2014** [Group- based quantitative structural activity relationship analysis of B-cell Lymphoma Extra Large \(BCL-XL\) inhibitors.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 6 (5) pp.284-290
- 2014** [Preparation and characterization of nigella sativa microemulsions.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 6 (9) pp.485-489
- 2014** [Quantification of Nigella sativa oil \(NSO\) from biodegradable PLGA nanoparticles using FTIR spectroscopy.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 6 (10) pp.228-232
- 2014** [Novel insight into the structural requirements of P70S6K inhibition using group-based quantitative structure activity relationship \(GQSAR\) \(GQSAR\).](#) Journal of Applied Pharmaceutical Science , 4 (6) pp.16-24
- 2014** [Formulation and stability testing of Gentamicin-N. sativa fusion emulsions for osteo-healing application.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 6 (11) pp.171-176
- 2014** [Preparation and characterization of nigella sativa microemulsions.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 6 (9) pp.485-489
- 2014** [Cellular uptake of nigella sativa oil-PLGA microparticle by PC-12 cell line.](#) Journal of Microencapsulation , 31 (6) pp.600-608
- 2014** [Quantification of nigella sativa oil \(NSO\) from biodegradable PLGA nanoparticles using FTIR spectroscopy.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 6 (10) pp.228-232

- 2013** [Microencapsulation of alpha-mangostin into PLGA microspheres and optimization using response surface methodology intended for pulmonary delivery.](#) Journal of Microencapsulation pp.1-13
- 2013** [Group-based quantitative structure-activity relationship \(G-QSAR\) analysis and molecular docking of B-cell lymphoma two \(BCL-2\) inhibitors .](#) Journal of Science & Technology in the Tropics (JOSTT) , Spec. (Supp) pp.S92-S92
- 2012** [Cresyl violet staining to assess neuroprotective and euroregenerative effects of Haruan traditional extract against eurodegenerative damage of ketamine.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 4 (4) pp.163-168
- 2012** [Viscosity and viscoelasticity of osteoarthritic synovial fluids in comparison to intraarticular injection of hyaluronic acid \(Synvisc and Suplasyn\).](#) Malaysian Orthopaedic Journal , 6 (2sup.A) pp.75-75
- 2012** [Development and validation of analytical method by RP-HPLC for quantification of Alpha-Mangostin Encapsulated in PLGA microspheres.](#) Journal of Analytical & Bioanalytical Techniques , 3 (7) pp.1-5
- 2012** [High initial burst release of gentamicin formulated as PLGA microspheres implant for treating orthopaedic infection.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 4 (supp.4) pp.685-691
- 2012** [Microencapsulation of Cassia Alata: fabrication and characterization.](#) International Journal of Pharmacy and Pharmaceutical Sciences , 4 (4) pp.219-224
- 2007** [Physical ageing and thermal analysis of PLGA microspheres encapsulating protein or DNA.](#) International Journal of Pharmaceutics , 339 (1-2) pp.112-120
- 2006** [PLGA microcapsules with novel dimpled surfaces for pulmonary delivery of DNA.](#) International Journal of Pharmaceutics , 311 pp.97-107
- Conference or Workshop Item**
- 2018** [Taste masking efficacy of encapsulation of black seed oil in alginate beads.](#) In: **4th International Pharmaceutical Research Conference 2018**
- 2017** [In-vitro release profile of anti-periodontitis doxycycline hyclate emulsion.](#) In: **2nd International Anatomical and Biomedical Scientific Conference 2017 (IABS)**
- 2017** [Nanotechnology for fabrication of nanoparticles and nanoemulsion.](#) In: **Seminar & Workshop Nanoteknologi 2017**
- 2016** [Fabrication of gentamicin and N. sativa oil loaded PLGA microspheres and the comparison of extended release profile between powdered and compressed forms.](#) In: **International Conference on Industrial Pharmacy (2nd ICIP 2016)**
- 2016** [Non-gelatin or vegetative sourced capsule: miles crossed and miles to go.](#) In: **Pharma+BioAsia 2016 Conference**
- 2016** [Development and optimization of gentamicin-Nigella sativa oil emulsion \(GNE\) using central-composite design approach.](#) In: **1st Asia Conference on Pharmaceutical Science**

- 2016 [In-vitro test of gentamicin-nigella sativa microspheres as novel drug delivery system for osteomyelitic treatment.](#) In: **1st Asia Conference on Pharmaceutical Science**
- 2016 [Characterization and evaluation of analgesic and antipyretic activities of paracetamol honey suspension \(PHS\) in rats.](#) In: **1st Asia Conference on Pharmaceutical Science**
- 2016 [Development and characterization of topical analgesic ointment - from laboratory to production scale.](#) In: **2nd International Conference on Industrial Pharmacy (ICIP 2016)**
- 2016 [Effect of process variables on the preparation of BSA loaded double-walled poly\(lactide-co-glycolide\) microspheres.](#) In: **International Conference on Industrial Pharmacy (2nd ICIP 2016)**
- 2016 [Compatibility study between paracetamol and pharmaceutical excipients used in liquid dosage forms.](#) In: **International Conference on Industrial Pharmacy (2nd ICIP 2016)**
- 2015 [Antibiotic-Nigella Sativa Fusion \(ANF\) as a novel approach intended for the treatment against bacteria forming biofilm in osteomyelitis.](#) In: **Eurobiofilms 2015: Fourth European Congress on Microbial Biofilms**
- 2015 [Differences between CTAB and chitosan in modifying PLGA nanoparticles for gene therapy.](#) In: **Controlled Released & Delivery Symposium 2015 (CRDDS2015)**
- 2015 [Confocal laser screening microscope analysis on post-biofilm assessment of biofilm-producing osteomyelitic staphylococcus aureus treated with new Gentamicin-nigella sativa Fusion Emulsion \(GNFE\).](#) In: **24th Scientific Conference of The Microscopy Society of Malaysia (SCMSM 2015)**
- 2015 [The potential of novel gentamicin-black seed oil \(GBSO\) fusion emulsion in treating biofilm infection .](#) In: **Eurobiofilms 2015: Fourth European Congress on Microbial Biofilms**
- 2014 [Preparation, characterization and reduction of burst release of BSA from biodegradable PLGA microspheres.](#) In: **1st International Conference of Industrial Pharmacy (ICIP 2014)**
- 2014 [Construction of in vitro Blood-Brain Barrier \(BBB\) model using MDCK-1 cell line .](#) In: **K.A.H.S. Research Week 2014**
- 2014 [Synergistic effects of new gentamicin-N.sativa emulsion against gentamicin-resistant, biofilm bacteria of osteomyelitis .](#) In: **15th Asia-Pacific Congress on Clinical Microbiology and Infection**
- 2014 [Characterization study of inggu \(ferula asafetida\) resin.](#) In: **The 5th Malaysian Symposium on Biomedical Science 2014**
- 2014 [In vitro antimicrobial effect of Gentamicin-N.sativa fusion emulsion against biofilm producing strain S.aureus, P.aeruginosa and S.epidermidis .](#) In: **1st International Conference on Industrial Pharmacy**
- 2014 [Formulation and stability testing of gentamicin-Nigella sativa emulsions for osteo-healing application .](#) In: **1st International Conference of Industrial Pharmacy (ICIP 2014)**

- 2014 [Compatibility characterization of Gentamicin-Nigella sativa fusion as a future greener pharmaceutical intended for ortheopaedic infection.](#) In: **1st International Conference on Industrial Pharmacy**
- 2013 [Preparation of metformin HCl microspheres and encapsulation efficiency.](#) In: **International Conference and Exposition of Invention on Institutions of Higher Learning (PECIPTA 2013)**
- 2013 [Fusion between contemporary medicine \(paracetamol\) and prophetic medicine \(honey\) as pharmaceutical suspension.](#) In: **3rd International Conference on Medicinal Use of Honeybee Products**
- 2013 [Assessment of behavioural effects following treatment with haruan traditional formulation in brain-damage induced Sprague dawley rats.](#) In: **9th International Conference on Cognitive Science (ICCS 2013)**
- 2013 [Co-encapsulation of Nigella sativa oil with plasmid DNA into biodegradable PLGA nanoparticle.](#) In: **6th Asian Association of Schools of Pharmacy (AASP) Conference 2013**
- 2013 [Fabrication of non-viral gene delivery system of N.sativa/chitosan/PLGA nanoparticles.](#) In: **6th Asian Association of Schools of Pharmacy (AASP) Conference 2013**
- 2012 [Effect of N. Sativa on Characteristics of gentamicin-loaded chitosan/PLGA microspheres.](#) In: **International Conference and Exhibition on Pharmaceutical, Neutraceutical and Cosmeceutical Technology**
- 2012 [The study of the Tualang honey viscosity.](#) In: **5th Federation of Islamic Medical Associations ( FIMA ) Conference in conjunction with the 14th IMAM Annual Scientific Meeting**
- 2012 [Preparation and characterization of nigella sativa microemulsion intended for neurite outgrowth study on PC12 cell line.](#) In: **Exhibition on Pharmaceutical, Neutraceutical and Cosmeceutical Technology**
- 2012 [Effect of different glidants on powder flow of mefenamic acid formulation.](#) In: **International Conference and Exhibition on Pharmaceutical, Neutraceutical and Cosmeceutical Technology**
- 2012 [Influence of multiple variables on characteristics of "Neurobionanoparticles" prepared by diffusion-solvent-evaporation technique.](#) In: **International Conference and Exhibition on Pharmaceutical, Neutraceutical and Cosmeceutical Technology**
- 2012 [Effects of surface modification using different surfactants and N. sativa oil on the PLGA nanoparticle uptake by neuron cell line.](#) In: **International Conference and Exhibition on Pharmaceutical, Neutraceutical and Cosmeceutical Technology**
- 2012 [Novel formulation of 'painkiller' using vegetarian capsule.](#) In: **IIUM's 1st International Postgraduate Research Conference, IIPRC 2012**
- 2011 [Microencapsulation of Cassia Alata extract into biodegradable PLGA.](#) In: **Malaysian Pharmacology and Physiology Society Conference 2011**
- 2011 [Hyaluronic acid rheological properties of Synvisc and Suplasyn for intraarticular injection In osteoarthritis.](#) In: **International Health Conference IIUM 2011**



- 2011 [Microencapsulation of Cassia alata extract for topical application.](#) In: **International Congress on Applied Biology (ICAB 2011)**
- 2011 [Rheology of Malaysian Tualang honey.](#) In: **International Health Conference IIUM 2011**
- 2011 [Preservation of behavioural functions by haruan traditional extract \(HTE\) in rats with ketamine-induced neurodegeneration .](#) In: **International Health Conference IIUM 2011**
- 2011 [Microencapsulation of gentamicin into biodegradable polymer as a novel drug delivery system.](#) In: **Biomalaysia 2011 Conference & Exhibition And The 2011 Pacific Rim Summit**
- 2011 [Development of chitosan- \$\alpha\$ -mangostin loaded nanoparticles as an anticancer agent .](#) In: **International Postgraduate Conference on Biotechnology (IPBC) 2011**
- 2011 [Comparative study between hard bovine gelatin capsule and vegetarian capsule.](#) In: **International Health Conference IIUM 2011**
- 2011 [In-vitro release study of cassia alata-loaded PLGA microspheres .](#) In: **International Postgraduate Conference on Biotechnology 2011**
- 2011 [Microencapsulation of drug into biodegradable polymer as a novel drug delivery system.](#) In: **IIUM Research, Invention and Innovation Exhibition 2011**
- 2011 [Fabrication of a gene delivery system from a biodegradable polymer.](#) In: **IIUM Research, Invention and Innovation Exhibition 2011**
- 2011 [Development of alpha mangostin-PLGA nanoparticles as an anticancer agent.](#) In: **International Health Conference IIUM (IHCI 2011)**
- 2010 [The study of the effects of different surfactants, concentration of PVA and molecular weight of PLGA on the development of Gentamicin-loaded PLGA microspheres.](#) In: **3rd International Conference on Advancement in Science and Technology (iCAST) 2010**
- 2010 [Effect of different parameters on the pDNA-loaded microspheres prepared by double emulsion solvent evaporation method.](#) In: **3rd International Conference on Advancement in Science and Technology (iCAST) 2010**
- 2010 [Potential Non-invasive Tracheobronchial targeted delivery of DNA by PLGA microspheres.](#) In: **IIUM Research, Innovation & Invention Exhibition (IRIIE 2010)**

**Book  
Book Section**

- 2018 [Alzheimer disease: gene therapy and natural product research.](#) In: **Current issues in pharmacy, vol. 2** IIUM Press, International Islamic University Malaysia . ISBN 978-967-418-454-4 , pp.175-198
- 2015 [Islamic perspectives on manufacturing of pharmaceuticals.](#) In: **Manufacturing of halal pharmaceuticals** IIUM Press . ISBN 979-967-418-316-5 , pp.1-33
- 2011 [Microspher-iiUM, a novel, controlled-released drug/gene delivery system.](#) In: **IIUM Research, Invention & Innovation Exhibition 2011** IIUM Press . ISBN 978-983-3124-14-9 , pp.183

- 2011** [Co-encapsulation of cyclophosphamide and mesna into double-walled microspheres.](#) In: **Pharmaceutical technology perspectives** IIUM Press . ISBN 9789674180751 , pp.77-96
- 2011** [Microencapsulation of gentamicin into PLGA-chitosan matrices.](#) In: **Current Issues in Pharmacy** IIUM Press . ISBN 9789674180195 , pp.112-128