

# ZAIMA AZIRA BT. ZAINAL ABIDIN



- KULLIYAH OF SCIENCE
- IIUM Kuantan Campus
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## ACADEMIC QUALIFICATION

- Doctor of Philosophy (Ocean Science)
- Master of Science in Microbiology
- Bachelor of Science in Biotechnology

## TEACHING RESPONSIBILITIES

APPLIED MOLECULAR GENETICS	2004/2005 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018 2018/2019
BASIC GENETIC ENGINEERING	2003/2004 2004/2005 2005/2006 2017/2018 2018/2019
BIODIVERSITY	2016/2017 2017/2018
ENVIRONMENTAL MICROBIOLOGY	2013/2014 2014/2015 2015/2016 2016/2017 2017/2018 2018/2019
INSTRUMENTATION AND TECHNIQUES IN PLANT SCIENCES II	2016/2017 2017/2018 2018/2019
INTRODUCTORY MICROBIOLOGY	2005/2006 2006/2007 2012/2013
MARINE MICROBIOLOGY	2011/2012 2012/2013 2013/2014 2014/2015 2015/2016
MARINE NATURAL PRODUCTS AND PROCESSES	2012/2013 2013/2014 2014/2015 2015/2016 2016/2017
NATURAL RESOURCE MANAGEMENT IN BIOTECHNOLOGY	2017/2018 2018/2019

## RESEARCH PROJECTS

### In Progress

- |                       |   |
|-----------------------|---|
| <b>2019 - Present</b> | Genotypic analysis of Catechol 2,3-Dioxygenase gene in oil clean-up crews isolated from Sungai Balok. |
| <b>2019 - Present</b> | In vitro propagation of <i>Etlingera elatior</i> J. (Torch ginger) via indirect regeneration          |

- 2018 - Present** Empowerment of fisherman-communities in Segari, Perak through participation in mangrove conservation and reforestation initiatives
- 2018 - Present** Microbial Biotransformation of Sesquiterpenoid and Diarylheptanoid from *Curcuma* sp. By Actinomycetes strains towards Anti-Inflammatory and Anti-Cancer Activities
- 2017 - Present** The effect of coculture on rare actinomycete, *Actinophytocola* sp. with live/dead cells of bacteria in eliciting secondary metabolite production
- 2016 - Present** Expressed sequence tags (ESTs) of genes involved in flowering of *Stevia rebaudiana*
- 2016 - Present** The screening of xylanase from Kuantan mangrove actinomycetes
- 2015 - Present** Sponge-associated fungal diversity with functional analysis of halogenase and cellulase
- 2004 - Present** Functional Food and Nutraceuticals Research Unit (FFNRU)

#### **Completed**

- 2016 - 2019** Expressed sequence tags (ESTs) of genes involved in flowering of *Stevia rebaudiana*
- 2015 - 2018** Over expression of Actinomycete *relA* and *rshA* genes to enhance secondary metabolite production
- 2014 - 2016** The Screening for Potential Xylan, Cellulose and Lignin Biodegradation Activities from Microbial Communities in the South East Pahang Peat Swamp Forest Sediment and Peat Water
- 2014 - 2018** Microbial Diversity of Pekan Peat Swamp Forest Soil and their Functional Potential Through Cultivation and Metagenomic Approach
- 2013 - 2016** Screening of Chloroplast Promoters for *Hevea* Chloroplast Transformation
- 2013 - 2016** Screening of Mangrove Actinomycetes and Their Antimicrobial Potentials
- 2012 - 2014** Growth and Survival of Malaysian Sport Fish *Tor tambroides* Fry by Applying Phototropic Bacteria as Feed Supplement.
- 2012 - 2015** Heavy metal and Antibiotic Resistance of the Bacterical Flora in Sediments of Coastal Water of Pahang, Malaysia
- 2011 - 2013** (RU2011) Isolation, diversity, and antimicrobial screening of actinomycetes isolated from mangrove sediments in Tanjung Lumpur, Pahang
- 2011 - 2014** (RU2011) Isolation, diversity, and antimicrobial screening of actinomycetes isolated from mangrove sediments in Tanjung Lumpur, Pahang
- 2006 - 2012** Studies on Mangrove in Pulau Toba, Langkawi
- 2005 - 2007** Physico-Chemical Characteristics and Sediment Environment of the Coastal Water, Pulau Tuba and its Nearby Islands, Langkawi

## PUBLICATIONS

### Article

- 2018** [Isolation and characterization of hydrocarbon tolerant microorganisms from marine environment.](#) International Journal of Integrated Engineering , 10 (6) pp.133-138
- 2018** [Heavy metals and antibiotic resistance bacteria in marine sediment of Pahang coastal water.](#) Journal CleanWAS , 2 (1) pp.20-22
- 2018** [Diversity, antimicrobial capabilities, and biosynthetic potential of mangrove actinomycetes from coastal waters in Pahang, Malaysia.](#) Journal of Coastal Research , Special Issue 82 Fall pp.174-179
- 2018** [Genetic polymorphisms of human transcription factor-7 like 2 \(TCF7L2\),  \$\beta\$ -defensin \(DEFB1\) and CD14 genes in nephrolithiasis patients.](#) International Journal of Biological Macromolecules , 118 (Part A) pp.610-616
- 2017** [Association of MMP-9 gene polymorphisms with nephrolithiasis patients.](#) Journal of Clinical Laboratory Analysis , 32 (1) pp.1-6
- 2017** [Verrucosipora sp. K2-04, Potential Xylanase Producer from Kuantan Mangrove Forest Sediment.](#) International Journal of Food Engineering , 3 (2) pp.165-168
- 2017** [Determination of alpha-2-MRAP gene polymorphisms innephrolithiasis patients.](#) International Journal of Biological Macromolecules , 105 (Part 1) pp.1324-1327
- 2016** [Biotechnological potential of Kuantan mangrove actinomycete, Micromonospora K3-13.](#) The International Medical Journal Malaysia , 15 (Supplement Issue) pp.108-108
- 2016** [Screening of ligninase-producing bacteria from south east Pahang peat swamp forest soil.](#) Malaysian Journal of Microbiology , 12 (6) pp.433-437
- 2016** [Comparison of various culture media effectiveness in the isolation of bacteria from Pekan peat swamp forest soil.](#) Malaysian Journal of Microbiology , 12 (6) pp.450-454
- 2016** [Serum E3 SUMO-protein ligase NSE2 level and peroxynitrite related to oxidative stress in nephrolithiasis patients.](#) Asian Pacific Journal of Tropical Biomedicine , 7 (3) pp.249-252
- 2016** [Selective isolation and antagonistic activity of actinomycetes from mangrove forest of Pahang, Malaysia.](#) Frontiers in Life Science , Vol. 9 (1) pp.24-31
- 2016** [Marine streptomyces SP. UKMCC\\_PT15 producing undecylprodigiosin with algicidal activity.](#) Jurnal Teknologi , 78 (11(2)) pp.55-60
- 2015** [Diversity and antimicrobial activity of mangrove soil actinomycetes isolated from Tanjung Lumpur, Kuantan.](#) Jurnal Teknologi , 77 (25) pp.37-43
- 2015** [Antibiotic resistant bacteria from sediment of coastal water of Pahang, Malaysia.](#) Jurnal Teknologi , 77 (24) pp.65-70
- 2015** [Screening of chloroplast promoters for Hevea brasiliensis chloroplast transformation.](#) Jurnal Teknologi , 77 (24) pp.165-170

- 2015 [Isolation of bacteria from the acidic peat swamp forest soil and their lignin degradation potential.](#) Jurnal Teknologi , 77 (24) pp.77-81
- 2015 [Selective isolation of Actinomycetes from mangrove sediment of Tanjung Lumpur, Kuantan, Malaysia .](#) Malaysian Journal of Microbiology , 11 (2) pp.144-155
- 2014 [Carotenoid contents in anoxygenic phototrophic purple bacteria, Marichromatium Sp. and Rhodopseudomonas Sp. of tropical environment, Malaysia .](#) Oriental Journal of Chemistry , 30 (2) pp.607-613
- Conference or Workshop Item**
- 2018 [Actinophytocola sp. K4-08: rare actinomycete with potential biosynthetic capability.](#) In: **34th Symposium of the Malaysian Society for Microbiology 2018**
- 2017 [Verrucosipora sp. K2-04, potential xylanase producer from Kuantan Mangrove Forest sediment.](#) In: **2017 SEOUL Conference**
- 2017 [Endophytic bacteria from Anysophyllea disticha \(Raja Berangkat.](#) In: **6th International Conference on Advancement in Science and Technology (iCAST 2017)**
- 2016 [Heavy metals resistance bacteria in marine sediment of Pahang coastal water.](#) In: **2nd International Conference on Oceanography and Sustainable Marine Production (ICOSMaP 2016)**
- 2016 [Antimicrobial activities of actinomycetes isolated from Malaysian tropical mangrove forest of Kuantan, Pahang.](#) In: **5th International Conference on Environment, Energy and Biotechnology 2016**
- 2016 [Antibacterial property of crude extract from stem-bark and leaves of Rhizophora apiculata against selected bacterial fish pathogens.](#) In: **Medical Research Symposium & Pacific Partnership in conjunction with Kuantan Research Day 2016**
- 2015 [Isolation of bacteria from acidic peat swamp forest soil and their lignin degradation potential.](#) In: **International Conference on Advancement in Science and Technology (iCAST 2015) - 'Frontiers in Biotechnology'**
- 2015 [Screening for ligninase-producing bacteria from South East Pahang peat swamp forest soil.](#) In: **International Congress of the Malaysian Society of Microbiology (Microbiology Meeting the needs of a changing world held 7-10 December 2015,**
- 2015 [Diversity and antimicrobial activities of mangrove actinomycetes isolated from Tanjung Lumpur, Kuantan.](#) In: **5th International Conference of Advancement in Science And Technology (iCAST 2015)**
- 2015 [Antibiotic resistant bacteria from sediment of coastal water of Pahang, Malaysia.](#) In: **International Conference on Advancement in Science and Technology (iCAST 2015)**
- 2015 [Comparison of different AGAR plates used in the isolation of bacteria from Pekan peat SWAMP forest soil.](#) In: **International Congress of the Malaysian Society for Microbiology 2015 (7-10 December 2015) hosted in Bayview Beach resort, Penang, Malaysia**

- 2014 [Selective isolation of actinomycetes from mangrove forest of Pahang, Malaysia.](#) In: **International Conference on Agriculture, Biology and Environmental Sciences (ICABES-14)**
- 2014 [Antibiotic resistant bacteria from sediment of coastal water of Pahang Malaysia.](#) In: **International Conference on Agriculture, Biology and Environmental Sciences (ICABES-14)**
- 2013 [Selective isolation of rare actinomycetes from mangrove sediment of Tanjung Lumpur, Kuantan.](#) In: **International Congress of the Malaysian Society for Microbiology 2013**
- 2011 [Isolation of actinomycin derivatives from diffusible pigment of Streptomyces sp. UKMCC\\_PT7.](#) In: **Simposium Kimia Analisis Malaysia**
- 2009 [Antimicrobial activities of some marine actinomyces isolated from Malaysians waters.](#) In: **International Symposium on the Biology of Actinomycetes**
- 2009 [Streptomyces sp. UKMCC\\_PT15: Potential anticancer agent producer.](#) In: **International Congress of Malaysian Society for Microbiology**

#### **Book**

#### **Book Section**

- 2011 [Review on marine actinomycetes .](#) In: **Biotechnologies towards sustainable development in Malaysia** IIUM Press . ISBN 9789674182007 , pp.141-153
- 2011 [In Planta Agrobacterium tumefaciens transformation of MR 219 rice .](#) In: **Biotechnologies towards sustainable development in Malaysia** IIUM Press . ISBN 9789674182007 , pp.258-267
- 2011 [The effect of cooking methods on meat samples using PCR-RFLP analysis .](#) In: **Biotechnologies towards sustainable development in Malaysia** IIUM Press . ISBN 9789674182007 , pp.305-313
- 2011 [Bioethics and biotechnology: A holistic approach in Islamic perspectives .](#) In: **Biotechnologies towards sustainable development in Malaysia** IIUM Press . ISBN 9789674182007 , pp.1-15
- 2006 [Biodiversity and marine biotechnology: a new era for the development of biotechnology industry.](#) In: **Management and status of resources in protected areas of Peninsular Malaysia, series 1** Department of Wildlife and National Parks Peninsular Malaysia . ISBN 9834301006 , pp.67-74