

# ZARINA BT. ZAINUDDIN



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## KELAYAKAN AKADEMIK

- Doctor of Philosophy
- Science
- Botany

### TANGGUNGJAWAB MENGAJAR

ADVANCES IN PLANT BIOTECHNOLOGY	2019/2020
APPLIED MOLECULAR GENETICS	2011/2012 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018
BASIC GENETIC ENGINEERING	2011/2012 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017
FOOD BIOTECHNOLOGY	2005/2006 2011/2012 2012/2013
GENETICS	2012/2013 2014/2015 2015/2016
INSTRUMENTATION IN BIOTECHNOLOGY RESEARCH	2005/2006 2006/2007 2011/2012
MOLECULAR AND CELL BIOLOGY	2005/2006
NATURAL RESOURCE MANAGEMENT IN BIOTECHNOLOGY	2016/2017
NATURAL RESOURCES MANAGEMENT	2014/2015
PLANT BIOTECHNOLOGY	2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
PLANT GENETICS	2015/2016 2016/2017 2017/2018 2018/2019
PLANT TISSUE CULTURE	2015/2016 2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
PRINCIPLES OF CELL AND TISSUE CULTURE	2011/2012 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018 2018/2019 2019/2020
PROJECT SEMINAR	2005/2006 2006/2007

## PROJEK PENYELIDIKAN

### In Progress

- 2019 - Present** In Vitro (Tissue Culture) Propagation of Bentong Ginger (*Zingiber Officinale* Var. Bentong)
- 2019 - Present** Characterization of OsSCE1 and Ghd2 genes involved in drought stress response of *Oryza sativa* via CRISPR-Cas9 systems
- 2019 - Present** In vitro propagation of *Etilingera elatior* J. (Torch ginger) via indirect regeneration
- 2019 - Present** Bengkel: Kaedah Pengurusan Tanah Untuk Penanaman Halia Bentong
- 2018 - Present** Metabolic engineering of *Synechocystis* sp. PCC 6803 (cyanobacteria) for biosynthesis of selected steviol precursors
- 2018 - Present** Metabolic engineering of *Synechocystis* sp. PCC 6803 (cyanobacteria) for biosynthesis of selected steviol precursors
- 2018 - Present** Empowerment of fisherman-communities in Segari, Perak through participation in mangrove conservation and reforestation initiatives
- 2018 - Present** Morphological and molecular characterisation of gac fruit (*Momordica cochinchinensis* Spreng)
- 2017 - Present** Characterizing phytoremediation capacity of *Jatropha curcas* and arbuscular mycorrhizal fungi for remediating bauxite mining sites
- 2017 - Present** Transcriptomic profiling of genes involved in flowering of *Stevia rebaudiana*
- 2016 - Present** Induction of hairy roots by various strains of *Agrobacterium rhizogenes* in leaves explants of selected medicinal plant species in Malaysia
- 2016 - Present** Expressed sequence tags (ESTs) of genes involved in flowering of *Stevia rebaudiana*
- 2016 - Present** Induction of hairy roots by various strains of *Agrobacterium rhizogenes* in leaves explants of selected medicinal plant species in Malaysia

### Completed

- 2018 - 2020** Empowerment of fisherman-communities in Segari, Perak through participation in mangrove conservation and reforestation initiatives
- 2017 - 2020** Transcriptomic profiling of genes involved in flowering of *Stevia rebaudiana*
- 2016 - 2019** Expressed sequence tags (ESTs) of genes involved in flowering of *Stevia rebaudiana*
- 2015 - 2018** Over expression of *Actinomcyete relA* and *rshA* genes to enhance secondary metabolite production

- 2015 - 2018** Understanding the Contributions and Mechanisms of Plant Growth Promoting Rhizobacteria (PGPR) for Production of Stevioside and Rebaudioside A in Stevia Rebaudiana Accession Bertam
- 2013 - 2017** Production of Halal Insulin in Photosynthetic Microalgae
- 2013 - 2016** Screening of Mangrove Actinomycetes and Their Antimicrobial Potentials
- 2013 - 2017** Understanding rhizospheric plant-microbe interactions for phytoremediation of dioxin contaminated soil
- 2013 - 2016** Screening of Chloroplast Promoters for Hevea Chloroplast Transformation
- 2012 - 2016** Comparison Of Stevioside and Reboudioside a Content and the Transcript Levels of Genes Involved in their Biosynthesis in Different Accessions of Stevia Rebaudiana Bertoni
- 2011 - 2018** RU 2011 -Identification of bacteria associated with severe early childhood caries.
- 2011 - 2015** Expression of Vitamin B12 Enzymes in Chlamydomonas reinhardtii Chloroplast
- 2006 - 2012** Studies on Mangrove in Pulau Toba, Langkawi
- Unknown - -1** ESTABLISHMENT OF AN EFFICIENT CHILLI REGENERATION PROTOCOL AFTER TRANSFORMATION OF CHILLI SHOOT TIPS THROUGH AGROBACTERIUM MEDICATION

## PENERBITAN

### Article

- 2019** [A Review of approaches in steviol glycosides synthesis.](#) International Journal of Life Sciences and Biotechnology , 2 (3) pp.145-157
- 2019** [Effects of N-methyl-N-nitrosourea on seed germination of Stevia rebaudiana = Kesan N-Metil-N-Nitrosourea pada percambahan biji benih stevia rebaudiana.](#) Sains Malaysiana , 48 (2) pp.301-307
- 2019** [In-vitro regeneration of orthosiphon stamineus \(misai kucing\) using axillary bud.](#) Science Heritage Journal (GWS) , 3 (1) pp.8-10
- 2018** [Genetic variabilities of stevia rebaudiana bertoni cultivated in Malaysia as revealed by morphological, chemical and molecular characterisations.](#) AGRIVITA Journal of Agricultural Science , 40 (2) pp.267-283
- 2018** [Enhancement of cyanobacterial control by fungi degraded palm oil trunk.](#) Malaysian Journal of Microbiology , 14 (Special Issue ( no. 3 )) pp.172-179
- 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** [A review on non-syndromic tooth agenesis associated with PAX9 mutations.](#) Japanese Dental Science Review , 54 (1) pp.30-36

- 2018** [Effects of pre-anthesis drought stress on yield components and seed quality of rice \(\*Oryza sativa\* L.\)](#). Malaysian Applied Biology Journal , 47 (5) pp.149-155
- 2018** [Sequencing-based analysis for the identification of bacteria associated with severe early childhood caries \(SECC\)](#). International Medical Journal Malaysia , 17 (Special Issue 2) pp.131-135
- 2018** [First report of anatoxin-a encoding gene in isolated cyanobacterial strains from Malaysia](#). Malaysian Journal of Microbiology , 14 (2 (Special issue)) pp.202-207
- 2017** [Evaluation on field performance of vegetable soybean \(\*Glycine max\* \(L.\) Merrill\) varieties grown at two locations in Malaysia](#). Malaysian Applied Biology , 46 (1) pp.125-129
- 2017** [Cyanobacteria characteristics and methods for isolation and accurate identification of cyanotoxins: A review article](#). Avicenna J Environ Health Eng , 4 (1) pp.1-11
- 2017** [Rhizospheric cymbopogon citratus-staphylococcus succinus interactions for phytoremediation of dibenzofuran contaminated soil](#). Asia Pacific Journal of Molecular Biology and Biotechnology , 25 (1) pp.1-5
- 2017** [Evaluation of genetic homogeneity of \*Jatropha curcas\* L. hybrid at an early stage of shoot bud formation from petioles using ISSR marker](#). Biotechnology & Biotechnological Equipment , 31 (1) pp.45-50
- 2016** [Biotechnological potential of Kuantan mangrove actinomycete, \*Micromonospora\* K3-13](#). The International Medical Journal Malaysia , 15 (Supplement Issue) pp.108-108
- 2016** [Selective isolation and antagonistic activity of actinomycetes from mangrove forest of Pahang, Malaysia](#). Frontiers in Life Science , Vol. 9 (1) pp.24-31
- 2015** [Diversity and antimicrobial activity of mangrove soil actinomycetes isolated from Tanjung Lumpur, Kuantan](#). Jurnal Teknologi , 77 (25) pp.37-43
- 2015** [Acclimatized apparatus enhanced seed germination in \*stevia rebaudiana bertonii\*](#). International Journal of Biology , 7 (2) pp.28-34
- 2015** [Screening of chloroplast promoters for \*Hevea brasiliensis\* chloroplast transformation](#). Jurnal Teknologi , 77 (24) pp.165-170
- 2015** [Standardization of surface sterilization protocol of field grown \*stevia rebaudiana\* prior to in vitro clonal propagation](#). Jurnal Teknologi , 77 (24) pp.141-146

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

- 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** [Understanding of rhizospheric \*Cymbopogon citratus\*-\*Staphylococcus succinus\* interactions for phytoremediation of dibenzofuran contaminated soil](#). In: **4th International Conference on Biotechnology Engineering 2016 (ICBioE 2016)**
- 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)**

2014 [Selective isolation of actinomycetes from mangrove forest of Pahang, Malaysia.](#) In: **International Conference on Agriculture, Biology and Environmental Sciences (ICABES-14)**

2008 [Expression of vitamin B12 enzymes in Chlamydomonas reinhardtii chloroplast.](#) In: **13th International Chlamydomonas conference EMBO Workshop on the Cell and Molecular Biology of Chlamydomonas**

#### Book

2011 [Biotechnologies towards sustainable development in Malaysia .](#) IIUM Press . ISBN 9789674182007

#### Book Section

2016 [Assessment of genetic diversity and hybrid identification in stevia using inter simple sequence repeat \(ISSR\) markers.](#) In: **Transactions of Persatuan Genetik Malaysia** Genetic Society of Malaysia . ISBN 9789832408475 , pp.157-162

2011 [Optimisation of transformation system for chilli embryo \(Capsicum annum variety Kulai\) using particle bombardment .](#) In: **Biotechnologies towards sustainable development in Malaysia** IIUM Press . ISBN 9789674182007 , pp.268-274

2011 [Screening of mangrove plants for gram negative antibacterial activity .](#) In: **Biotechnologies towards sustainable development in Malaysia** IIUM Press . ISBN 9789674182007 , pp.275-283

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