

YUKINORI MUKAI



- KULLIYAH OF SCIENCE
- IIUM Kuantan Campus
- Email address: mukai@iium.edu.my

ACADEMIC QUALIFICATION

- PhD in Agriculture
- MSc in Fisheries Science
- BSc in Fisheries Science

TEACHING RESPONSIBILITIES

AQUACULTURE	2011/2012 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017
ECOLOGICAL AQUACULTURE	2018/2019 2019/2020 2020/2021
Ecological Aquaculture	2017/2018
FINAL YEAR PROJECT (1)	2020/2021
FINAL YEAR PROJECT (2)	2020/2021
FISH BIOLOGY AND BEHAVIOR	2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
HATCHERY DESIGN AND TECHNOLOGY	2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
MARINE BIOLOGY	2011/2012 2012/2013 2013/2014 2014/2015 2015/2016
MARINE EXPEDITION	2016/2017 2017/2018 2018/2019 2019/2020
PHYSICAL OCEANOGRAPHY	2018/2019
SEED PRODUCTION AND CULTURE TECHNIQUE	2019/2020 2020/2021
Seed Production and Culture Technique	2017/2018
TROPICAL MARINE ECOSYSTEM	2015/2016 2016/2017 2017/2018 2018/2019

RESEARCH PROJECTS

In Progress

2017 - Present Infusoria cultivating methods using innovative medium for marine finfish larvae

2016 - Present Implications of Current Pattern on Dispersal of oral Larvae in Isolated Reef near Balok Coastal Area

2015 - Present Innovative Fish Feeding System using a computer control Program with the Video Image Processing System and Fish Behaviour Patterns

Completed

2015 - 2017 Innovative Fish Feeding System using a computer control Program with the Video Image Processing System and Fish Behaviour Patterns

2015 - -1 Optimum Lighting Conditions to Gain High Survival and Growth Rates of Sutchi Catfish Larvae Pangasianodon Hypophthalmus through Physiological and Molecular Studies

2015 - 2018 Optimum Lighting Conditions to Gain High Survival and Growth Rates of Sutchi Catfish Larvae Pangasianodon Hypophthalmus through Physiological and Molecular Studies

2014 - 2015 Fundamental Study on the Optimum Growth Condition of Seaweed, Gracilaria Manilaensis under Different Salinities, Ph and Light Intensities

2014 - 2017 Fundamental Study for New Type of Live Feed for Small-Mouth Marine Finfish Larvae to Investigate Optimum Salinities and Feed Formula

2014 - 2016 Control of Cannibalistic Behaviour of African Catfish Clarias gariepinus with the Least Physiological Stress Using Optimum Light Wavelength and Light Intensity for Stable Seed Production

2013 - 2015 Study on Properties and Composition of Live Rocks towards Potential Artificial Reef for Marine Habitat Restoration

2012 - 2014 Study on Spatio-temporal Variation of Scleractinian Coral Recruitment Towards Sustainable Coral Reef Conservation in Pulau Tioman and Balok, Pahang

2012 - 2014 Innovative Fish Rearing System with the Least Physiological Stress using Optimum Light Wavelength and light Intensity

2012 - -1 Asian Seabass Seed Production Using a Demand Feeding System

2012 - 2013 Asian Seabass Seed Production Using a Demand Feeding System

2011 - 2013 Optimum Light Intensity for Larval Rearing of Tiger Grouper

2010 - 2012 Development of a Demand Feeding System for Grouper Juveniles

PUBLICATIONS

Article

2020 [Optimum salinity level for the cultivation of ciliated protozoa.](#) Malaysian Applied Biology , 49 (1) pp.23-29

- 2020** [Mitigation of *Alexandrium tamiyavanichii* using active fractions from ethanol extract of ornamental plant, *Sansevieria trifasciata*.](#) Science Heritage Journal (GWS) , 4 (1) pp.19-23
- 2019** [A review of betanodavirus vaccination as preventive strategy to viral nervous necrosis \(VNN\) disease in grouper.](#) Aquaculture International Journal , 27 (5) pp.1565-1577
- 2019** [Hunger classification of *Lates calcarifer* by means of an automated feeder and image processing.](#) Computers and Electronics in Agriculture , 163 pp.1-8
- 2018** [Identification of *euplotes encysticus* a starter live feed for marine fish larvae based on morphology and molecular sequences.](#) Malaysian Applied Biology , 47 (3) pp.175-180
- 2018** [Genetic diversity of the orange-spotted grouper \(*Epinephelus coioides*\) in Terengganu Malaysia based on mitochondrial cytochrome b sequence data.](#) Malaysia Applied Biology , 47 (6) pp.61-68
- 2018** [The potential of dried and fresh extracts of *Sansevieria trifasciata* to mitigate *Alexandrium tamiyavanichii*, a toxic dinoflagellate.](#) Science Heritage Journal , 2 (1) pp.18-20
- 2018** [Visual pigments and spectral sensitivity of juvenile *sutchi* catfish \(*Pangasianodon hypophthalmus* Sauvage 1878\).](#) Journal of Applied Ichthyology , 34 (6) pp.1314-1319
- 2017** [Aggressive behaviour of African catfish *clarias gariepinus* juveniles under different light intensities and light wavelengths.](#) Malaysian Applied Biology , 46 (4) pp.7-13
- 2017** [Coral recruitment success and sessile benthic colonisation estimation in Tioman Island Marine Park, Malaysia.](#) Journal of Coastal Conservation , 21 (6) pp.883-891
- 2017** [Relationship between adult abundance and successive coral recruitment density in the Tioman Island Marine Park, Malaysia.](#) Zoology and Ecology , 27 (3-4) pp.328-334
- 2017** [Current status of coral reefs in Tioman Island, Peninsular Malaysia.](#) Turkish Journal of Zoology , 41 (2) pp.294-305
- 2017** [Optimum light wavelength and light intensity for rearing juvenile African Catfish \(*Clarias gariepinus*\).](#) International Journal of Aquatic Science , 8 (2) pp.107-112
- 2017** [Influence of light wavelength and intensity on the survival and somatic growth of the early larval stage of *sutchi* catfish *Pangasianodon hypophthalmus*.](#) International Journal of Aquatic Science , 8 (2) pp.113-119
- 2016** [Survival and growth rates of *sutchi* catfish \(*Pangasianodon hypophthalmus*\) juveniles under different light wavelengths and intensities.](#) Malaysian Applied Biology , 45 (2) pp.29-36
- 2016** [Effective method to culture infusoria, a highly potential starter feed for marine finfish larvae.](#) International Journal of Fisheries and Aquatic Studies , 4 (3 (Part B)) pp.124-127

- 2016** [Demand feeding system using an infrared light sensor for Brown-marbled grouper juveniles, *Epinephelus fuscoguttatus* = Penggunaan sensor cahaya inframerah dalam sistem suapan permintaan untuk juvana Kerapu Harimau, *Epinephelus fuscoguttatus*.](#) Sains Malaysiana , 45 (5) pp.729-733
- 2016** [Morphogenesis of free neuromasts in the larvae of brown-marbled grouper *epinephelus fuscoguttatus*.](#) Marine and Freshwater Behaviour and Physiology, , 49 (3) pp.159-171
- 2015** [First report of *cochloidium polykrikoides* \(dinophyceae\), a harmful algal bloom \(HAB\) species in the coastal waters of peninsular Malaysia.](#) Malaysian Journal of Science , 34 (1) pp.87-92
- 2015** [Assessing the potential of mangrove educotourism to marine protected area: a case of Tioman and Tulai Islands, Pahang, Malaysia.](#) Natural Resources , 6 pp.442-449
- 2015** [Morphological types and arrangement of cone cells, and the visual acuity of sutchi catfish *pangasianodon hypophthalmus*.](#) Jurnal Teknologi , 77 (25) pp.7-12
- 2015** [Why is cannibalism less frequent when larvae of sutchi catfish *Pangasianodon hypophthalmus* are reared under dim light? .](#) Aquaculture Research , 46 pp.1958-1964
- 2015** [The effects of different ph and salinities on growth rate and carrageenan yield of *gracilaria manilaensis*.](#) Jurnal Teknologi , 77 (25) pp.1-5
- 2014** [Visual thresholds for feeding and optimum light intensity for larval rearing of Asian seabass, *Lates calcarifer* \(Bloch\).](#) Aquaculture Research , 44
- 2014** [Egg hatching rates of brown-marbled grouper, *Epinephelus fuscoguttatus* under different light wavelengths and intensities.](#) Malaysian Journal of Science , 33 (2) pp.40-44
- 2014** [Morphogenesis of sense organs and behavioural changes in larvae of the brown-marbled grouper *Epinephelus fuscoguttatus* \(Forsskål\).](#) Marine and Freshwater Behaviour and Physiology , 47 (5) pp.313-327
- 2014** [Morphogenesis of sens the brown-marbled grouper *Epinephelus fuscoguttatus* \(Forsskål\).](#) Marine and Freshwater Behaviour and Physiology , 47 (5) pp.313-327
- 2013** [Diversity of phytoplankton in coastal water of Kuantan, Pahang, Malaysia.](#) Malaysian Journal of Science , 32 (1) pp.29-37
- 2013** [Determination of visual acuity and visual axis of brown-marbled grouper, *epinephelus fuscoguttatus* to develop a demand feeding system.](#) Malaysian Journal of Science , 32 (1) pp.24-28
- 2013** [Reduced cannibalistic behavior of African catfish, *clarias gariepinus*, larvae under dark and dim conditions.](#) Zoological Science , 30 (6) pp.421-424
- 2012** [Retinomotor response in larvae of brown-marbled grouper, *Epinephelus fuscoguttatus* \(Forsskal\).](#) Journal of Fisheries and Aquatic Science , 7 (3) pp.233-239

- 2012** [Light intensity requirements for feeding behaviour by the brown-marbled grouper, *Epinephelus fuscoguttatus* \(Keperluan Keamatan Cahaya untuk Perlakuan Pemakanan Ikan Kerapu Harimau, *Epinephelus fuscoguttatus*\)](#). Sains Malaysiana , 41 (10) pp.1193-1196
- 2012** [Retinomotor response in the larvae of brown-marbled grouper, *Epinephelus fuscoguttatus*](#) . Journal of Fisheries and Aquatic Science , 7 (3) pp.233-239
- 2011** [Ontogenetic eye development and related behavioural changes in larvae and juveniles of barramundi *Lates calcarifer* \(Bloch\)](#). Marine and Freshwater Behaviour and Physiology , 44 (6) pp.339-348
- 2011** [Remarkably high survival rates under dim light conditions in sutchi catfish *Pangasianodon hypophthalmus* larvae](#) . Fisheries Science , 77 (1) pp.107-111
- 2011** [High survival rate of sutchi catfish, *Pangasianodon hypophthalmus*, larvae reared under dark condition](#). Journal of Fisheries and Aquatic Science , 6 (3) pp.285-290
- 2011** [Ontogenetic eye development and related behavioural changes in larvae and juveniles of barramundi *Lates calcarifer* \(Bloch\)](#) . Marine and Freshwater Behaviour and Physiology , 44 (6) pp.339-348
- 2010** [Development of sensory organs and changes of behavior in larvae of the sutchi catfish, *Pangasianodon hypophthalmus*](#). Fisheries Science , 76 (6) pp.921-930
- 2010** [Feeding behavior under dark conditions in larvae of sutchi catfish *Pangasianodon hypophthalmus*](#). Fisheries Science , 76 (3) pp.457-461
- 2008** [Development of sensory organs in larvae of African catfish *Clarias gariepinus*](#). Journal of Fish Biology , 73 (7) pp.1648-1661
- 2008** [Effects of different salinity levels on the survival and growth of marble goby, *Oxyeleotris marmoratus* larvae](#). Aquaculture Science , 56 (3) pp.423-432
- 2007** [Structure and development of free neuromasts in barramundi, *lates calcarifer* \(block\)](#). Zoological Science , 24 (8) pp.829-835
- 2006** [Role of free neuromasts in larval feeding of willow shiner *Gnathopogon elongatus caerulescens* Teleostei, Cyprinidae](#). Fisheries Science , 72 (4) pp.705-709
- 2005** [Role of olfaction and vision in homing behaviour of black rockfish *Sebastes inermis*](#). Journal of Experimental Marine Biology and Ecology , 322 (2) pp.123-134
- 2004** [Development of free neuromasts in larvae of cyprinid fish](#). Mem. Fac. Agr. Kinki. Univ. , 27 pp.1-14
- 2003** [Successful Sargassum bed formation in a "Isoyake" area by net transplantation of juveniles with small algae](#). Suisan Zoshoku , 51 (2) pp.127-134
- 2002** [Evidence of homing of black rockfish *Sebastes inermis* using biotelemetry](#). Fisheries Science , 68 (6) pp.1189-1196
- 1995** [Development of free neuromasts with special reference to sensory polarity in larvae of the willow shiner, *Gnathopogon elongatus caerulescens* \(teleostei, cyprinidae\)](#). Zoological Science , 12 (1) pp.125-131

- 1995** [Cupular growth of embryonic free neuromasts in the willow shiner, *Gnathopogon elongatus caerulescens*, and the pattern in the changes in cupular length after hatching.](#) Fisheries Science , 61 (3) pp.521-522
- 1994** [The relationship between the length of the cupulae of free neuromasts and feeding ability in larvae of the willow shiner *Gnathopogon elongatus caerulescens* \(Teleostei, Cyprinidae\).](#) The Journal of Experimental Biology , 197 (1) pp.399-403
- 1993** [Extremely long cupulae of embryonic neuromasts in cyprinid fish.](#) Copeia , 1994 (4) pp.1157-1159
- 1992** [Cupular growth rate of free neuromasts in three species of cyprinid fish.](#) Nippon Suisan Gakkaishi , 58 (10) pp.1849-1853
- 1992** [Development of free and canal neuromasts and their directions of maximum sensitivity in the larvae of ayu, *Plecoglossus altivelis*.](#) Japanese Journal of Ichthyology , 38 (4) pp.411-417
- 1991** [Chemoreception and vertical movement in planktonic yolk-sac larvae of red sea bream *Pagrus major*.](#) Journal of Applied Ichthyology , 7 (3) pp.129-135
- 1991** [Morphological studies on the cupulae of free neuromasts along with the growth of larvae in cyprinid fish.](#) Nippon Suisan Gakkaishi , 57 (7) pp.1339-1346
- 1984** [Change in the visual threshold with development of rods in ayu *Plecoglossus altivelis*.](#) Nippon Suisan Gakkaishi , 50 (12) pp.2133
- 1983** [Morphology of the eye and free neuromast of larval ayu and pale chub and its relation to behaviour in water flow.](#) Nippon Suisan Gakkaishi , 49 (10) pp.1527-1532

Conference or Workshop Item

- 2020** [Positive effect of protozoa as starter diets for early stage of Asian seabass larvae.](#) **In: Tropical Ocean and Marine Sciences Symposium 2020 (TOMSY2020)**
- 2019** [High growth rate and low feed conversion ratio using new type demand feeding system with image processing program and fish behavior.](#) **In: Kuantan Research Day 2019 (KRD 2019)**
- 2019** [Starter diet for Asian seabass larvae.](#) **In: Kuantan Research Day 2019 (KRD 2019)**
- 2019** [The optimum light condition for Sutchi catfish larval rearing.](#) **In: Kuantan Research Day 2019 (KRD 2019)**
- 2019** [Larval rearing of Asian seabass using protozoa.](#) **In: International Conference on Oceanography and Sustainable Marine Production (ICOSMaP 2019)**
- 2019** [Demand feeding system using image processing program and fish behavior.](#) **In: International Conference on Oceanography and Sustainable Marine Production: Local and Global Challenges (ICOSMaP 2019)**
- 2019** [High growth rate using new type demand feeding system with image processing program and fish behavior..](#) **In: 2019 ASEAN-FEN 9th International Fisheries Symposium (IFS2019): A New Horizon in Fisheries and Aquaculture Through Education, Research and Innovation**

- 2019 [Larval rearing of Asian seabass using rotifer, protozoa, and Euplotes encysticus.](#) In: **2019 ASEAN-FEN 9th International Fisheries Symposium (IFS2019): A New Horizon in Fisheries and Aquaculture Through Education, Research and Innovation**
- 2019 [The influence of light wavelength and intensity to the survival rates, growth rates and production index of Sutchi Catfish larvae.](#) In: **2019 ASEAN-FEN 9th International Fisheries Symposium (IFS2019): A New Horizon in Fisheries and Aquaculture Through Education, Research and Innovation**
- 2018 [Quatification of carrageenan in gracilaria cf. Manilensis \(Rhodophyta\) exposed to different salinities and PH using attenuated total reflection-fourier transform infrared spectroscopy \(ATR-FTIR\).](#) In: **International Conference of Analytical Sciences**
- 2018 [The classification of hunger behaviour of Lates Calcarifer through the integration of image processing technique and k-Nearest Neighbour learning algorithm.](#) In: **International Conference on Innovative Technology, Engineering and Sciences 2018, iCITES 2018**
- 2018 [Demand feeding device using a video processing system and fish behavior as parameter for a computer program to control feeding time and amount.](#) In: **International Conference on Agriculture, Animal Sciences and Food Technology (ICAFT) 2018**
- 2018 [The spectrophotometric determination of visual spectral sensitivity of sutchi catfish Pangasianodon hypophthalmus.](#) In: **International Conference on Agriculture, Animal Sciences and Food Technology (ICAFT) 2018**
- 2018 [Infusoria cultivating methods for marine finfish larvae using vegetables and dry fish powder.](#) In: **International Conference on Agriculture, Animal Sciences and Food Technology 2018**
- 2018 [The Identification of hunger behaviour of lates calcarifer through the integration of image processing technique and support vector machine.](#) In: **4th Asia Pacific Conference on Manufacturing Systems and the 3rd International Manufacturing Engineering Conference, APCOMS-iMEC 2017**
- 2017 [Best growth condition for Gracilaria Manilaensis \(rhodophyta\) under different salinities, Ph and light intensities and its type of carrageenaan.](#) In: **Asian Pacific Aquaculture 2017 (APA17)**
- 2017 [Cultivation of infusoria as a starter live feed for marine finfish larvae.](#) In: **Asian-Pacific Aquaculture 2017 (APA17)**
- 2017 [Innovative medium for cultivating infusoria.](#) In: **28th International Invention, Innovation & Technology Exhibition 2017**
- 2017 [Cannibalistic behaviour of Sutchi catfish \(Pangasianodon hypophthalmus\) larvae under different light conditions.](#) In: **6th International Conference on Advancement in Science and Technology (iCAST 2017)**
- 2016 [Fish welfare: Improving fish culture method through modification of the light conditions.](#) In: **2nd World Congress on Integration Islamicisation: Focus On Medical & Health Care Sciences 2016 (2WCII-2016)**
- 2016 [Morphological and 18s rRNA sequencing of Euplotes sp.: a potential live feed for marine finfish larvae.](#) In: **2nd International Conference on Oceanography and Sustainable Marine Production (ICOSMaP 2016)**

- 2016 [Genetic diversity of the orange-spotted grouper \(*Epinephelus coioides*\) in Terengganu Malaysia based on mitochondrial cytochrome b sequence data.](#) In: **2nd International Conference on Oceanography and Sustainable Marine Production (ICOSMaP 2016)**
- 2016 [Cortisol \(stress\) level of sutchi catfish \(*pangasianodon hypophthalmus*\) juvenile under different light wavelengths and intensities.](#) In: **2nd International Conference on Oceanography and Sustainable Marine Production (ICOSMaP 2016)**
- 2016 [The effects of light wavelengths and light intensities on the aggressive behaviour of African catfish *Clarias gariepinus* juveniles.](#) In: **2nd International Conference on Oceanography and Sustainable Marine Production (ICOSMaP 2016)**
- 2016 [A spectrophotometric study on the visual pigments from retinal photoreceptors of juvenile sutchi catfish *Pangasianodon hypophthalmus*.](#) In: **2nd International Conference on Oceanography and Sustainable Marine Production (ICOSMaP 2016)**
- 2016 [A simple and effective method to culture ciliated protozoans as a starter diet for marine finfish larvae.](#) In: **2nd International Conference on Oceanography and Sustainable Marine Production (ICOSMaP 2016)**
- 2015 [The optimum light wavelength and light intensity for production of African catfish, *clarias gariepinus* juveniles.](#) In: **International Conference on Advancement in Science and Technology (iCAST 2015) - 'Frontiers in Biotechnology'**
- 2015 [Genetic variation of wild tiger grouper \(*Epinephelus fuscoguttatus*\) obtained from Kedah, Malaysia.](#) In: **International Conference on Advancement in Science and Technology (iCAST 2015) - 'Frontiers in Biotechnology'**
- 2015 [Survival and growth rates of sutchi catfish juveniles, *pangasianodon hypophthalmus* under different light wavelengths and intensities.](#) In: **International Conference on Advancement in Science and Technology (iCAST 2015) - 'Frontiers in Biotechnology'**
- 2015 [The morphological types and arrangement of cone cells, and the visual acuity of sutchi catfish *pangasianodon hypophthalmus*.](#) In: **International Conference on Advancement in Science and Technology (iCAST 2015) - 'Frontiers in Biotechnology'**
- 2014 [The potential of ornamental plant, *Sansevieria trifasciata* to inhibit the growth of harmful algal bloom species.](#) In: **International Conference on Applied Life Sciences (ICALS2014)**
- 2014 [Three times higher hatching rates of brown-marbled grouper, *epinephelus fuscoguttatus* under Green light than white light.](#) In: **International Research, Invention and Innovation Exhibition 2014 (IRIIE2014)**
- 2014 [Significantly higher growth rates of grouper juveniles reared by a demand feeding system using an infrared light sensor.](#) In: **International Research, Invention and Innovation Exhibition 2014 (IRIIE2014)**
- 2014 [Cannibalistic behaviour of African catfish juveniles, *clarias gariepinus* under different light wavelengths and intensities.](#) In: **3rd International Conference on Applied Life Sciences (ICALS2014)**

- 2013 [Rearing of grouper juveniles using a demand feeding system with an infrared light sensor](#). In: **International Conference on Oceanography and Sustainable Marine Production: A Challenge of Managing Marine Resources in a Changing Climate**
- 2013 [Demand feeding system for juveniles of groupers, brown-marbled grouper and orange-spotted grouper](#). In: **IRIIE 2013**
- 2013 [Circadian rhythm of juveniles of brown-marbled grouper and orange-spotted grouper](#). In: **IRIIE 2013**
- 2013 [Optimum light conditions for larval rearing of tiger grouper *Epinephelus fuscoguttatus*](#). In: **Annual International Seminar on Marine Science & Aquaculture 2013 (ISOMSA), "Ocean Health & Our Future" in UMS, Kota Kinabalu, Sabah at 19 - 21 March 2013.**
- 2013 [Juvenile rearing of Asian seabass *Lates calcarifer* using Demand feeding system](#). In: **Annual International Seminar on Marine Science & Aquaculture 2013 (ISOMSA), "Ocean Health & Our Future"**
- 2013 [Optimum light conditions for eggs incubation and larval rearing of brown-marbled grouper *Epinephelus fuscoguttatus*](#). In: **Conference on Oceanography and Sustainable Marine Production: A Challenge of Managing Marine Resources Under Climate Change (ICOSMaP)2013**
- 2013 [Spatio-temporal variation of Scleractinian coral recruitment on terra-cotta tiles and artificial live rock in Tioman Island, Malaysia](#). In: **International Conference on Oceanography and Sustainable Marine Production: A Challenge of Managing Marine Resources in a Changing Climate (ICOSMaP) 2013**
- 2012 [Innovative demand feeding device using a light sensor](#). In: **IUM Research, Invention and Innovation Exhibition, IRIIE 2012**
- 2012 [Feeding behavior under dark conditions in larvae of sutchi catfish *Pangasianodon hypophthalmus*](#). In: **IUM Research, Invention and Innovation Exhibition 2012**
- 2012 [Optimum light intensity for larval rearing of African catfish, *Clarias gariepinus*](#). In: **International Seminar on Marine Science and Aquaculture**
- 2012 [Development of a demand feeding system for grouper juveniles - \(1\) Orange-spotted grouper](#). In: **2nd Conference for Regional Cooperation in Ocean and Earth Science Research in the South China Sea (SCS 2012)**
- 2012 [Development of a demand feeding system for grouper juveniles - \(2\) tiger grouper](#). In: **2nd Conference for Regional Cooperation in Ocean and Earth Science Research in the South China Sea (SCS 2012)**
- 2011 [Determination of visual axis of tiger grouper juveniles *Epinephelus fuscoguttatus*, to develop a demand feeding system](#). In: **8th Annual Seminar on Marine Science & Aquaculture: Sustainable Development & Management of Aquatic Resources**
- 2011 [Optimum light intensity for larval rearing of brown marbled grouper *Epinephelus fuscoguttatus*](#). In: **International Symposium on Marine Ecosystems, Natural Products and their Bioactive Metabolites**

- 2006 [Development of sensory organs in larvae of mouse grouper, *Cromileptes altivelis*.](#) In: **International Conference on "Coastal Oceanography and Sustainable Marina Aquaculture, Confluence & Synergy"**
- 2006 [Development of free neuromasts in larvae of mouse grouper, *Cromileptes altivelis*.](#) In: **International Conference on "Coastal Oceanography and Sustainable Marina Aquaculture, Confluence & Synergy"**
- 2006 [Feasibility study of applications of micro-bubbles for aquaculture.](#) In: **International Conference on "Coastal Oceanography and Sustainable Marina Aquaculture, Confluence & Synergy"**

Book

- 2020 [Machine learning in aquaculture: hunger classification of *Lates calcarifer*.](#) Springer Singapore . ISBN 978-981-15-2236-9

Book Section

- 2020 [Time-series identification on fish feeding behaviour.](#) In: **Machine Learning in Aquaculture: Hunger Classification of *Lates calcarifer*** Springer . ISBN 978-981-15-2236-9 , pp.37-47
- 2020 [Image processing features extraction on fish behaviour.](#) In: **Machine Learning in Aquaculture. SpringerBriefs in Applied Sciences and Technology** Springer, Singapore . ISBN 978-981-15-2236-9 , pp.25-36
- 2020 [Hyperparameter tuning of the model for hunger state classification.](#) In: **Machine Learning in Aquaculture** Springer . ISBN 978-981-15-2236-9 , pp.49-57
- 2020 [Monitoring and feeding integration of demand feeder systems.](#) In: **Machine learning in aquaculture: hunger classification of *Lates calcarifer*** Springer . ISBN 978-981-15-2236-9 , pp.11-24
- 2020 [Concluding remarks.](#) In: **Machine Learning in Aquaculture** Springer . ISBN 978-981-15-2236-9 , pp.59-60
- 2018 [The identification of hunger behaviour of *lates calcarifer* using k-nearest neighbour.](#) In: **Intelligent Manufacturing & Mechatronics** Springer Nature Singapore Pte Ltd. . ISBN 978-981-10-8787-5 , pp.393-399
- 2011 [Larval feeding behavior and sensory organs .](#) In: **Basic knowledge in marine sciences** IIUM Press . ISBN 9789674181994 , pp.215-220
- 2011 [Procedure of histological experiment .](#) In: **Basic knowledge in marine sciences** IIUM Press . ISBN 9789674181994 , pp.221-230
- 2011 [Aquaculture in China: a focus on major contributing species.](#) In: **Aquaculture and the environment: Present status and future challenges** IIUM Press . ISBN 9789674181970 , pp.25-32
- 2011 [Mariculture in South Korea: the opportunity for growth.](#) In: **Aquaculture and the environment: Present status and future challenges** IIUM Press . ISBN 978-967-418-197-0 , pp.77-81
- 2011 [Effects of nitrifying bacteria and probiotic bacteria on water quality in the juvenile rearing tanks of *Patin \(Pangasius hypophthalmus\)*.](#) In: **Aquaculture and the environment: Present status and future challenges** IIUM Press . ISBN 978-967-418-197-0 , pp.205-211