

## Appendix 1: Our Strength

No	Indicators	Achievement in 2012
<b>1</b>	<b>Staffs Strength</b> i. Number of administrative and professional staffs ii. Number of supporting staffs iii. Number of academic staffs a. Professor b. Associate Professor c. Senior Lecturer d. Lecturer e. Research Fellow	11 11 2 2 2 2 1 <b>31</b>
<b>2</b>	<b>Facilities</b> i. Number of educational lab ii. Number of research lab iii. Number of Hatchery iv. Number of computer lab v. Number of computer for students usage	1 13 2 1 25
<b>3</b>	<b>Number of Postgraduate students</b>  <b>1. Local</b> a. Master b. Doctor of Philosophy (PhD)  <b>2. International</b> a. Master b. Doctor of Philosophy (PhD)	56 10 4 7 <b>77</b>

## Appendix 2 : Research Funding

Bil.	Researcher / Grants	Grant Amount (RM)
1.	<p><b>Prof. Dr. Anuar Hassan</b></p> <p>i. MOHE (ERGS) (01.08.2011 – 31.07.2014) Technology Development and Production of Freshwater Pearl Culture in Malaysia. RM128,000.00</p> <p>ii. UMT (Tabung Bantuan Penyelidikan Khas) (15.01.2011 – 15.01.2012) Identification and Basic Application of Probiotic Microbes <i>Lactobacillus</i> spp. for Competitive Exclusion (in-vitro) of Cancer Cell Lines. RM20,000.00</p>	148,000.00
2.	<p><b>Assoc. Prof. Dr. Mhd Ikhwanuddin @ Polity Abdullah</b></p> <p>i. MOHE (FRGS) (01.04.2010 – 31.03.2012) Fundamental Process in The Reproductive Biology Of Mud Crab, <i>Scylla Olivacea</i>. RM45,000.00</p> <p>ii. MOHE (ERGS) (01.08.2011 – 31.07.2013) Study on Artificial Insemination, Putative Hormones and Larvae Feeding Regimes of Spiny Lobster, <i>Panulirus polyphagus</i>. RM175,000.00</p>	220,000.00
3.	<p><b>Prof. Emeritus Dr. Faizah Sharoum</b></p> <p>i. SCIENCE FUND (01.11.2009 – 31.01.2012) Fish parasites as indicator of pollution in natural and Farming ecosystems. RM230,984.00</p> <p>ii. MOHE (FRGS) (07.01.2012 – 30.06.2015) Therapeutic and Biological Control Measures for Crustacean Parasites (<i>Caligus</i> sp. and <i>Lernanthropus</i> sp.) RM100,000.00</p>	330,984.00
4.	<p><b>Assoc. Prof. Aizam Zainal Abidin</b></p> <p>i. TECHNOFUND (MOSTI) (01.02.2011 – 31.01.2013) Development of Freshwater Prawn Grow-out Systems. RM260,470.00</p>	260,470.00

5.	<p><b>Dr. Safiah Jasmani</b></p> <p>i. FRGS (MOHE) (15.01.2011 – 15.01.2013) The Role of Prostaglandins in Breeding Capacity of <i>Macrobrachium rosenbergii</i> females in Captivity. RM89,000.00</p>	89,000.00
6.	<p><b>Dr. Mithun Sukumaran</b></p> <p>i. TPM (UMT) (12.01.2011 – 30.11.2012) Bridging the Gaps in Linnean and Wallacean shortfalls: Phylogenetics and Evolutionary Biogeography of Fishes of the Genus <i>Channa</i> (Scopoli) from South and South East Asia. RM10,000.00</p> <p>ii. FRGS (MOHE) (05.02.2012 – 05.01.2014) Bridging the Gaps in Linnean and Wallacean shortfalls: Phylogenetics and Evolutionary Biogeography of Fishes of the Genus <i>Channa</i> (Scopoli) from South and South East Asia. RM118,000.00</p>	128,000.00
<b>Total Amount :</b>		<b>1,176,454.00</b>

### Appendix 3: Postgraduate Students

#### 1. Local PhD Students

No	Name	Supervisor	Project Title	Program	Year Registration	Scholarship received	Status
1	Khor Wai Ho	Assoc. Prof. Dr. Mhd Ikhwanuddin Abdullah	Development of New Mud Crab ( <i>Scylla olivacea</i> Culture Strains From Malaysia Based On Morphological Assessment of Desirable Traits Carapace width-body weight relationship, size at maturity, size Increment Percentage Via Selective Breeding	PhD	2010	MyPhD	On going
2	Mohd Fazhan Mohd Hanafiah		Molecular Systematic, Species Identity Profiling of Harpacticoid Copepod Species From Coral Reef Area of Malaysia and Their Response to Thermal Stress.	PhD	2010	MyPhD	On going
3	Siti Nor Fatimah Zakaria		Sperm Production, Cryopreservation and Artificial Insemination of Mud Spiny Lobster, <i>Panulirus polyphagus</i>	PhD	2010	MyPhD	On going
4	Ahmad Daud Om	Assoc. Prof. Dr. Abol Munafi Ambok Bolong	Purification and Characterization on Giant Grouper ( <i>Epinephelus lanceolatus</i> ) and Tiger Grouper ( <i>Epinephelus fuscoguttatus</i> )	PhD	2005	-	On going

No	Name	Supervisor	Project Title	Program	Year Registration	Scholarship Recieved	Status
5	Nur Aina Lyana bt Mohamad Ali	Assoc. Prof. Dr. Mhd Ikhwanuddin Abdullah	The Induction of Gynogenesis in The Banana Shrimp, <i>Fenneropenaeus merguensis</i> Using Ultra Violet (UV) Irradiation Sperm of White Leg Shrimp, <i>Litopenaeus vannamei</i>	PhD	2012	MyPhD	On going
6	Nor Shamsuria bt Omar	Dr. Anil Chatterji	Effect of Peri-vitelline Fluid (PVF) Obtained from the Fertilized Eggs of the Horseshoe Crab on the Proliferation and Differentiation Ability of Mesenchymal Stem Cells (MSCS): Application as an Alternative Growth Factor (AGF)	PhD	2011	-	On going
7	Nor Juneta bt Abu Seman	Dr. Safiah Jasmani	Physiological Studies On Molt Cycle In Mud Spiny Lobster, <i>Panulirus polyphagus</i> (Herbst, 1793) Larvae	PhD	2011	MyPhD	On going
8	Wan Noazira bt Wan Adnan		Physiological Effects of Lemongrass ( <i>Cymbopogon citratus</i> ) Essential Oil As An Anaesthetic on Freshwater Prawn, <i>Macrobrachium rosenbergii</i>	PhD	2011	MyPhD	On going
9	Bryan Raveen Nelson a/l Nelson Bernett	Prof. Emer. Dr. Faizah bt Mohd Sharoum	Evaluation of Horseshoe Crab Nesting Ground In East Coast of Peninsular Malaysia	PhD	2012	MyPhD	On going
10	Siti Jalilah binti Mohamad	Assoc. Prof. Madya Aizam Zainal Abidin	Habitat-related and Seasonal Related Variation in Reproductive Endocrine Condition of Climbing Perch, <i>Anabas testudeni</i> (Bloch, 1792)	PhD	2012	MyPhD	On going

## 2. International PhD Students

No	Name / Country	Supervisor	Project Title	Program	Year Registration	Scholarship Recieved	Status
1	Mir Allah Dad Talpur (Pakistan)	Assoc. Prof. Dr. Abol Munafi Ambok Bolong	Isolation of Gut Probiotics and Application in Early Stages of Larviculture of <i>Portunus pelagicus</i> (Linneus, 1758)	PhD	2008	Pakistani Government	On going
2	Issa Mohamed Abdullah Alfarsi (Oman)		Study on the reproductive biology of Omani Clownfish.	PhD	2008	-	On going
3	Abdul Jabbar Memon (Pakistan)		Optimization of Spermatophore Cryopreservation and Artificial Insemination Technique in Banana Shrimp <i>Penaeus merguensis</i> (De Mar,1888)	PhD	2008	Pakistani Government	On going
4	Muhammad Iqbal Khan (Pakistan)		Study on Sex Change Mechanism of <i>Amphiprion ocellaris</i> (Pomacentridae) in Captivity Conditions	PhD	2009	Pakistani Government	On going
5	Bako Mallam Modu (Nigeria)	Prof. Emeritus Dr. Faizah Mohd Sharoum	Ecology of Monogeneans on The Gills Of Two Species of Freshwater Fishes In Relation To The Water Quality In Kenyir Lake, Terengganu, Malaysia	PhD	2009	GRA	Viva
6	Ali Mohammed Mastoi (Pakistan)	Prof. Dr. Anuar Hassan	Antibacterial Properties Of Seaweed And Oyster Extracts And Its Effects On Pathogenic Bacteria Tolerance, Immune Status, Growth And Proximate Composition In Feeding Trials Of The Red Tilapia, <i>Oreochromis sp.</i> Juvenile	PhD	2010	Pakistani Government	Viva
7	Roshan Mazhar (Pakistan)	Prof. Emer. Dr. Faizah bt Mohd Sharoum	Assessment of Metal Pollution Using Endoparasite as Accumulation Indicator in Fish at Setiu Wetland	PhD	2012	Pakistani Government	On going

### 3. Local Master Degree Students

No	Name	Supervisor	Project Title	Program	Year Registration	Scholarship Recieved	Status
1	Marjorie Anak Charam	Assoc. Prof. Dr. Hii Yii Siang	Effect of L-Ascorbic Acid on Tissue Regeneration of Sea Anemones, <i>Heteractis magnifica</i> (Quoy & Gaimard, 1833).	M.Sc (Structure A)	2007	RA	Graduated
2	Mohd Luthfi Omar	Assoc. Prof. Dr. Zaleha Kassim	Growth and Population of Green Lipped Mussel ( <i>Perna viridis</i> ) on Raft Culture Area in Muar Coastal Water of Malaysia	M.Sc (Structure A)	2007	SKS	On going
3	Noorul Ain Falah Ayob		Growth and Population of Green Lipped Mussel ( <i>Perna viridis</i> ) on Raft Culture Area in Muar Coastal Water of Malaysia	M.Sc (Structure A)	2007	-	On going
4	Muhamad Eidyezani Safie		Sustain The High Survival Rate of Fry Grouper at Prelarval Stage.	M.Sc (Structure A)	2008	MOHE	On going
5	Kamaliah Kasmaruddin		Development of Chitosan from Horseshoe Crab Carapace as Wound Healing Agent	M.Sc (Structure A)	2008	NSF	Graduated
6	Lim Keng Chin		A Comparative Study on The Population Growth and Paste Production of Marine <i>Chlorella</i> sp. and <i>Chaetoceros calcitrans</i>	M.Sc (Structure A)	2008	SKS	Graduated
7	Nur Qamarina Abdul Khalid	Prof. Emer. Dr. Faizah bt Mohd Sharoum	Parasitic Crustacean on marine Cultured Fish: Taxonomy and Life Cycle of <i>Lernantropus</i> sp. From Cultured Sea bass ( <i>Lates calcarifer</i> )	M.Sc (Structure A)	2009	GRA	On going

8	Mohd Ihwan Zakariah	Dr. Marina Hassan	Study of Ectoparasites on Blue swimming Crab <i>Portunus pelagicus</i> .	M.Sc (Structure A)	2009	-	On going
9	Zalikha Azmi	Prof. Dr. Anuar Hassan	Triploidy Induction in <i>Anabas testudineus</i> (Bloch, 1791) by Cold Shock Treatment	M.Sc (Structure A)	2009	MOHE	Viva
10	Siti Jalilah Mohamad	Assoc. Prof. Aizam B. Zainal Abidin	The Reproductive Biology and Breeding of Climbing Perch, <i>Anabas Testudineus</i>	M.Sc (Structure A)	2009	SKS	Graduated
11	Muhammad Hafiz Bahar	Assoc. Prof. Dr. Mhd Ikhwanuddin Abdullah	The Development of Breeding Technology for the Production of Banana Shrimp ( <i>Feneropenaeus merguensis</i> ) monosex postlarvae (PL) using hormone treatment.	M.Sc (Structure A)	2009	MOHE	On going
12	Redzuari Alias		Feeding Regimes for the Larvae of the Mud Crab <i>Scylla divacea</i> (Herbst, 1796)	M.Sc (Structure A)	2009	PASCA	On going
13	Juariah Hafsyah Muhamad @ Mansor		Development of Potential Probiotics from Foregut of Blue Swimming Crab, <i>Portunus pelagicus</i> .	M.Sc (Structure A)	2009	NSF	On going
14	Azmie Ghazali		Study on Ovarian Development of Orange Mud Crab, <i>Scylla olivacea</i>	M.Sc (Structure A)	2009	-	On going
15	Nurul Huda Abdullah		Study on Ovarian Development in Female Mud Crab, <i>Scylla olivacea</i> through eyestalk ablation and Methyl Farnesoate Hormone Induction.	M.Sc (Structure A)	2009	PASCA	On going



16	Norhidayah Abdul Manan	Assoc. Prof. Dr. Mhd Ikhwanuddin Abdullah	Induction of Triploidy for The Production of Monosex Postlarvae of Banana Shrimp, <i>Fenneropenaeus merguensis</i> .	M.Sc (Structure A)	2009	MOHE	Graduated
17	Wan Mohd Faizal Wan Yusoff		Size at Maturity and Ovarian Maturation Stages of Orange Mud Crab <i>Scylla olivacea</i>	M.Sc (Structure A)	2009	MOHE	On going
18	Siti Zuriati Daud	Dr. Safiah Jasmani	Effect of Prebiotic and Probiotic on The Growth, Survival and immune Response of White Shrimp, <i>Litopenaeus vannamei</i> cultured at different salinities.	M.Sc (Structure A)	2009	SKS	On going
19	Mohamad Roshidy Mohamad Rathy	Assoc Prof. Aizam Zainal Abidin	The Production of All-Male Soft-Shell Giant Freshwater Prawn, <i>Macrobrachium rosenbergii</i> (de Man) Using Temperature Shock Method	M.Sc (Structure A)	2010	-	On going
20	Muhammad Nur Al Haziq Norzin		The Culture of The Freshwater Pearl Mussel In Kenyir Lake	M.Sc (Structure A)	2010	GRA	On going
21	Zulizah Ochi		The Ecology of Bivalvia: Unionidae In Tasik Kenyir and Its Feasibility For Freshwater Pearl Culture	M.Sc (Structure A)	2010	GRA	On going
22	Fatimah A`Tirah Mohamad	Prof. Emeritus Dr. Faizah bt Mohd Sharoum	Effects of Environmental on Lipids and Fatty Acid Composition of Several Tropical Harpacticoid Copepods	M.Sc (Structure A)	2010	MyMaster	On going
23	Surzanne bt Mohd Agos		The Effect of Thermal Bar On Distribution of Monogenean Gill Parasite On Cage-Cultured Red Hybrid Tilapia ( <i>Oreochromis</i> sp.) at Kenyir Lake	M.Sc (Structure A)	2010	MyMaster	On going

24	Mohamad Nor Azra Md Adib	Assoc. Prof. Dr. Mhd Ikhwanuddin Abdullah	Effects of 20-Hydroxyecdysone On Blue Swimming Crab, <i>Portunus pelagicus</i> Larvae	M.Sc (Structure A)	2010	-	On going
25	Nurfaseha bt Abdul Hamid		Methyl Farnesoate Stimulates Gonad Development of Blue Swimming Crab, <i>Portunus pelagicus</i>	M.Sc (Structure A)	2010	MyMaster	On going
26	Mohd Taufik bin Muhammad		Development Feeding Regime Using Various Microalgae on <i>Portunus pelagicus</i> larvae	M.Sc (Structure A)	2011	MyMaster	On going
27	Noor Hidayati binti Abu Bakar	Assoc. Prof. Dr. Mhd Ikhwanuddin Abdullah	Gynogenesis Success in Banana Shrimp, <i>Fenneropenaeus merguensis</i> (de Mann, 1888) through In-Vitro Fertilization	M.Sc (Structure A)	2011	SKS	On going
28	Nur Syazwani bt Abdullah		Effect of Entada Spiralis On <i>Lernanthropus</i> sp.	M.Sc (Structure A)	2011	SKS	On going
29	Nurulhuda bt Mahmood		Effect of Entada Spiralis On <i>Argulus</i> sp.	M.Sc (Structure A)	2011	SKS	On going
30	Muhammad Farouk bin Harman		Effect of Endocrine Hormone 17 $\alpha$ -hydroxyprogesterone and 17 $\alpha$ -hydroxypregnenelone on The Ovarian Maturation of Orange Mud Crab <i>Squilla olivacea</i>	M.Sc (Structure A)	2012	-	On going
31	Noor Baiduri bt Shaibani		Hybridization of Mud Crab, <i>Squilla olivacea</i> (Herbst, 1796) and <i>Scylla tranquebarica</i> (Fabricius, 1798) from Wild and In Captivity: Mating Success and Sperm Assessment	M.Sc (Structure A)	2011	SKS	On going
32	Wan Mohd Hafiz W. Masor		Feeding Regimes of Larvae Mud Crab <i>Squilla olivacea</i> Through Selective Media	M.Sc (Structure A)	2011	SKS	On going

33	Nabila Mursyida bt Mohd Marzuki		A Morphological Description of Nematode in Feather Back, <i>Chitala chitala</i> at Kenyir Lake	M.Sc (Structure A)	2011	-	On going
34	Naimah bt Muhammad	Prof. Emeritus Dr. Faizah bt Mohd Sharoum	Infestation of Parasitic Marine Isopod in <i>Nemipterus peronii</i> at Landing Base, Pulau Kambing, Terengganu, Malaysia	M.Sc (Structure A)	2012	Yayasan Terengganu	On going
35	Mohd Asri bin Zulkifli	Assoc. Prof Aizam Zainal Abidin	The Effect of Stagnant and Recirculating System of Survival and Growth Performance of The Nursery Stage of The Giant Freshwater Prawn, <i>Macrobrachium rosenbergii</i> .	M.Sc (Structure A)	2012	-	On going
36	Mohd Faiz Mohd Zain	Prof. Dr. Anuar bin Hassan	Taxonomic Evaluation of <i>Channa</i> spp. from South and Southeast Asia	M.Sc (Structure A)	2012	-	On going
37	Jannatul Fariahah binti Zulkifli	Dr. Safiah Jasmani	The Effect of Fatty Acids From Crickets <i>Gryllus bimaculatus</i> , on Reproductive Performance of Broodstock Females of <i>Macrobrachium rosenbergii</i> ( <i>de Mann</i> )	M.Sc (Structure A)	2012	-	On going
38	Wan Muna Binti Wan Ibrahim	Associate Prof Dr. Najiah Musa	Screening Antibacterial Activity of Malaysian Herbs Against Streptococcosis in Red Tilapia, <i>Oreochromis niloticus</i>	M.Sc (Structure C)	2012	-	On going
39	Hasnazifa Binti Huzmi		Screening Antibacterial Activity of Malaysian Medicinal Plants against Vibriosis in <i>Penaeus vannamei</i>	M.Sc (Structure C)	2012	PTPTN	On going
40	Siti Sarah Binti Che Salim	Dr. Safiah Jasmani	Growth Rate of Tilapia Fingerlings ( <i>Oreochromis</i> sp.) in Response to Temperature and Stocking Density Stress	M.Sc (Structure C)	2012	MARA	On going

41	Nor Hazirah Binti Mohd Zuki	Dr. Safiah Jasmani	Short-term and Long-term Salinity Acclimation Effect on Stress Hormone and Blood Hematology of Tilapia ( <i>Oreochromis</i> sp.)	M.Sc (Structure C)	2012	MyMaster	On going
42	Umami Nazihah Binti Abdul Rahman		Physiology Effects on Giant Freshwater Prawn, <i>Macrobrachium rosenbergii</i> Towards Heat Shock	M.Sc (Structure C)	2012	MARA	On going
43	Wan Fatin Amani Binti Wan Zulkiflee	Dr. Nadirah Musa	Effect of Low Temperature During Transportation on Reproductive Investment of Female Climbing Perch, <i>Anabas testudineus</i>	M.Sc (Structure C)	2012	MyMaster	On going
44	Anida Binti Aminudin	Dr. Nadirah Musa	Effect of Clove Oil on Oocyte Maturation and Ovulation in <i>Clarias gariepinus</i>	M.Sc (Structure C)	2012	MyMaster	On going
45	Qairunnisak Binti Ismail	Dr. Nurul Ulfah Karim	Chemical Quality of Ozonated Long Tail Tuna ( <i>Thunnus thynnus</i> )	M.Sc (Structure C)	2012	PTPTN	On going
46	Nasorriah Binti Nasir		Comparison of Microbiological and Chemical Quality on Tiger Grouper ( <i>Epinephelus fuscoguttatus</i> ) Between Different Ice Storage	M.Sc (Structure C)	2012	MyMaster	On going
47	Munirah Binti Mohd Shukri		Histamine Determination and Isolation of Histamine Producing Bacteria from Long Tailed Tuna ( <i>Thunnus tonggol</i> )	M.Sc (Structure C)	2012	MyMaster	On going
48	Madiah Binti Hashim	Prof Dr. Nik Hashim Nik Mustapha	Technical Efficiency of Sea Bass ( <i>Lates calcarifer</i> ) in Cage Culture System between East-coast and West-coast, Peninsular Malaysia	M.Sc (Structure C)	2012	MyMaster	On going

49	Nurrul Aliaa Binti Abdul Kader	Prof Dr. Nik Hashim Nik Mustapha	Impact of Rising Feed Cost on Economic Production of Patin ( <i>Pangasius</i> sp.) in Cage Culture System in Pahang	M.Sc (Structure C)	2012	JPA	On going
50	Nur Ain Binti Borhan	Dr. Marina Hassan	Physiology and Behavioral Responses to Hypoxia on <i>Macrobrachium rosenbergii</i>	M.Sc (Structure C)	2012	MyMaster	On going
51	Noor Zahidah Binti Ahmad Sobri		Histopathological Observation on <i>Oreochromis</i> spp. Exposed to Clove Oil	M.Sc (Structure C)	2012	MyMaster	On going
52	Izyan Hazwani Binti Khairun Nasri	Prof Dr. Ir Ahmad Jusoh	Utilization of <i>Artemia</i> sp. as population control of <i>Chlorella</i> and <i>Nannochloropsis</i> sp	M.Sc (Structure C)	2012	MyMaster	On going
53	Nur Hidayu Binti Abdul Razab	Associate Prof Dr. Hii Yii Siang	Ammonia Removal of Fish Feed Decomposed Seawater by Pervious Concrete	M.Sc (Structure C)	2012	MyMaster	On going
54	Nur Syazwana Binti Norazelan	Associate Prof Dr. Hii Yii Siang	Water Soluble Fraction of Hydrocarbon Filtration Using Immobilized Bacteria ( <i>Pseudomonas aeruginosa</i> ) and Pervious Concrete	M.Sc (Structure C)	2012	MyMaster	On going
55	Siti Norjannah Binti Johari		Phosphorus removal of Fish Feed Decomposed by Pervious Concrete	M.Sc (Structure C)	2012	PTPTN	On going
56	Nurul Aina Syuhada Binti Mahusain		<i>E. Coli</i> Removal Using Pervious Concrete Filter	M.Sc (Structure C)	2012	MyMaster	On going

#### 4. International Master Degree Students

No	Name	Supervisor	Project Title	Program	Year Registration	Scholarship Recieved	Status
1	Tran Thi Yen Nhi	Prof. Emeritus Dr. Faizah bt Mohd Sharoum	The Use of Cestodes as Indicator of Heavy Metal Pollution	M.Sc (Structure A)	2011	-	Graduated
2	Abdul Rahman Ali Kerdasi	Dr.Mithun Sukumaran	Characterization of Freshwater Microalgae <i>Ankisteodesmus falcatus</i> (Corda)	M.Sc (Structure A)	2011	-	On going
3	Baihaqi bin Mahmud	Prof. Dr. Anuar bin Hassan	Manipulasi Fototermal Terhadap Kinerja Reproduksi Ikan Kerling ( <i>Tor</i> sp.)	M.Sc (Structure A)	2012	Kerajaan Indonesia	On going
4	Tran Nguyen Duy Khoa	Prof. Emer. Dr. Faizah bt Mohd Sharoum	Distribution and Treatments of Major Crustacean Parasites of Freshwater and Brackish Water Fish in Malaysia	M.Sc (Structure A)	2012	-	On going

## Appendix 4: Other Responsibilities and Duties

### A. Lecturer and Staff Associated to other Professional Bodies

- **Prof. Dr. Anuar Hassan**
  1. Member – Malaysian Fisheries Society
  2. Member - Bulletin of the Japanese Society of Scientific Fisheries
  3. Japanese Government Scholarship (MUMBUSHO) alumni
  
- **Assoc. Prof. Dr. Mhd. Ikhwanuddin @ Polity Abdullah**
  1. Member – Asian Fisheries Society
  
- **Prof. Emeritus Dr. Faizah Shaharom**
  1. Member – Malaysian Fisheries Society
  2. Member of Malaysian Parasitology and Tropical Medicine
  3. Member – MINDS (Malaysian Invention & Design Society)
  4. Life Member – Malaysian Society for Microbiology
  5. Member of Malaysian Applied Biology
  6. Member of Malaysian Society of Marine Science
  7. Member – Asian Fisheries Society Professional Bodies
  8. Member – World Aquaculture Society
  9. Member of British Society of Parasitology
  
- **Assoc. Prof. Aizam Zainal Abidin**
  1. Lifetime member – Association of Applied Biology
  2. Lifetime member – Malaysia and Asian Fisheries Biology
  
- **Dr. Safiah Jasmani**
  1. Member of The Japanese Society of Fisheries Science
  
- **Dr. Mithun Sukumaran**
  1. Member of Malaysian Fisheries Society
  2. Live DNA (Score- 91.1460)
  3. Conservation research group, St. Albert's College, Cochin, Kerala, India
  
- **Norainy Mohd Hussin**
  1. Lifetime member of Persatuan Genetik Malaysia
  2. Member of Malaysian Nature Society (MNS)
  
- **Fara Nor Asmira Jastan**
  1. Golden Key International Honour Society, UMT Chapter
  
- **Azmie Ghazali**
  1. Golden Key International Honour Society, UMT Chapter
  
- **Mohd Ihwan Zakariah**
  1. Electron Microscopy Society Malaysia (EMSM)

- **Wahidah Wahab**
  1. Electron Microscopy Society Malaysia (EMSM)
  
- F. AKUATROP Lecturers Appointed As Advisor / Consultant For Community, Private And Government Agency**
  
- **Prof. Dr. Anuar Hassan**
  1. Nur Infra Feed Sdn. Bhd.
  2. Temanese Sdn. Bhd.
  
- **Assoc. Dr. Mhd. Ikhwanuddin @ Polity Abdullah**
  1. Develop Standard Malaysia (MS) related to fisheries and aquaculture sector –Fisheries and aquaculture industries / SIRIM Berhad (Representative).
  2. Aquaculture project development in Terengganu – Farmers and fishermen / Department of Fisheries (Advisor).
  3. Aquaculture project development in Sarawak – Local fishermen / Lembaga Kemajuan Tanah Sarawak (Advisor).
  4. Perunding cadangan projek ternakan lobster Blue Archipelago Sdn Bhd, Khazanah Nasional (GLC).
  5. Technical Task Force 'Pembangunan Udang Galah Warisan Negara', Jabatan Perikanan Malaysia (Technical Member).
  6. AJK Teknikal 'Pembangunan projek ternakan ketam berkulit lembut', Unit Perancangan Ekonomi (EPU), Negeri Terengganu
  
- **Prof. Emeritus Dr. Faizah Shaharom**
  1. Kelah World Sdn. Bhd. – Pembenihan dan penjagaan Ikan Kelah (penasihat)
  2. Kembang Subur Sdn. Bhd. – Projek Pengeluaran Ikan Pompano (penasihat)
  3. Penasihat dan Penyelidik Projek Pembangunan Koridor Wilayah Pantai Timur (ECER) untuk Projek Akuaponik.
  4. KIDIK Sdn. Bhd. (penasihat)
  5. Easternseas Sdn. Bhd. (penasihat)
  6. Blue Archipelago Sdn. Bhd. (penasihat)
  7. Universiti Malaysia Pahang (penasihat)
  8. Heritage Farm Sdn. (penasihat)
  
- **Dr. Anil Kumar Chatterji**
  1. Nur Infra Feed Sdn. Bhd.
  
- **Prof. Dr. Anuar Hassan**
  1. Nur Infra Feed Sdn. Bhd.
  2. Temanese Sdn. Bhd.
  
- **Assoc. Prof. Aizam Zainal Abidin**
  1. Heritage Farm Sdn. Bhd.
  
- **Dr. Mithun Sukumaran**
  1. Diurnal variation for the water intake system and different culture projects associated with aquaculture. Ain Aquaculture, Kota Bharu, Kelantan.
  2. Occurrence of mortality in the cage culture systems in Sg. Como, Lake Kenyir, Terengganu, Malaysia- Nu-Infra Pvt. Ltd., Terengganu, Malaysia.
  3. Mortality of Barramundi fish- Terengganu Cell Pvt. Ltd., Terengganu, Malaysia. 2009-2010.



## Appendix 5: Human Resources Development

### A. Soft Skill and Society Activities

1. Hari Keluarga AKUATROP - Jun 2012
2. Majlis Berbuka Puasa Kelab Aquatroopers - Jul 2012
3. Majlis Hari Raya UMT – Ogos 2012

### B. Workshop / Practical / Courses Participation by AKUATROP Staffs Organized By UMT

#### • January

1. Taklimat Permohonan Geran Kementerian Pengajian Tinggi (KPT), UMT  
( 02/01/2012 - 02/01/2012)
2. Konvensyen Kumpulan Inovatif dan Kreatif (KIK) UMT Kali Pertama,  
Auditorium Mahyuddin, FPE, UMT  
(04/01/2012)
3. Latihan Penggunaan Peralatan Multimeter, Makmal Kejuruteraan Akuakultur & Analisis Dan Kualiti Air,  
UMT  
( 10/01/2012 - 10/01/2012)
4. Talk On Copepode In Aquaculture, Auditorium INOS, UMT  
( 26/01/2012 - 26/01/2012)
5. Taklimat Sistem Pengurusan Aset bagi Pegawai Penerima Aset di PTJ, Bilik Latihan Multimedia, PSNZ  
( 30/01/2012 - 30/01/2012)
6. Taklimat Sistem Pengurusan Aset bagi Pegawai Aset di PTJ  
( 31/01/2012 - 31/01/2012)

#### • February

1. Taklimat Sistem Pengurusan Aset Secara Web Base Kepada Warga UMT  
( 01/02/2012 - 01/02/2012)
2. Pameran Antarabangsa, Dawn Education Expo di Islamabad Pakistan  
( 02/02/2012 - 09/02/2012)
3. Taklimat Sistem Pengurusan Aset Secara Web Base Kepada Warga UMT  
( 09/02/2012 - 09/02/2012)
4. Taklimat Pendedahan Awal Kaedah Pembelajaran Berpusatkan Pelajar (SCL), Auditorium Mahyudin, FPE  
(13/02/2012 - 13/02/2012)
5. Taklimat Zakat Satu Kewajipan, Auditorium PSNZ, UMT  
(13/02/2012)
6. Taklimat Sistem Pengurusan Aset bagi Urusetia Sistem di PTJ, Makmal Aplikasi Kompleks Kuliah, UMT  
( 14/02/2012 - 14/02/2012)
7. Taklimat Pendedahan dan Penggunaan ICT, Makmal Aplikasi, Kompleks Kuliah, UMT  
(20/02/2012)
8. Ceramah "Garam Dan Gula Dalam Kehidupan", Auditorium PSNZ  
( 22/02/2012 - 22/02/2012)
9. Taklimat Cuti, Auditorium Inos-Akuatrop, UMT  
(22/02/2012)
10. Bengkel Pembentangan Bidang Keberhasilan Utama (KRA) dan Petunjuk Prestasi (KPI) Tahun 2012  
(27/02/2012 - 29/02/2012)

- **March**

1. Inland Fish Culture In Hungary : Successes And Failures Of Our Common Carp  
Audi Inos, Auditorium Inos, UMT  
(11/03/2012)
2. Workshop On Gynogenesis In Fish, Hatcheri Air Tawar Akuatrop, UMT  
(12/03/2012)
3. Persidangan Kebangsaan Pentadbiran Organisasi (PKPO) 2012  
( 13/03/2012 - 15/03/2012)
4. Kesan-Kesan Kosmetik Terhadap Pengguna, Auditorium PSNZ, UMT  
( 14/03/2012 - 14/03/2012)
5. Bengkel Perancangan Cukai Individu  
( 21/03/2012 - 21/03/2012)
6. Seminar Keibubapaan Dan Pendidikan Awal Kanak-Kanak, Auditorium PSNZ, UMT  
(22/03/2012)

- **April**

1. Taklimat Sistem Pengurusan Aset Bagi Pegawai Pengesah Pendaftaran Dan Pinjaman Aset  
( 03/04/2012 - 03/04/2012)
2. Taklimat Sistem Pengurusan Aset Bagi Pegawai Penyelidik UMT  
( 03/04/2012 - 03/04/2012)
3. Kursus Keselamatan Dan Kesihatan Di Tempat Kerja, Dewan Jamuan DSM, UMT  
(04 – 05/04/2012)  
Seminar Hak-Hak Pencaruman Kwsp, Auditorium Inos  
(09/04/2012)
4. Taklimat Daripada RSYS Geanalytic Solution  
( 17/04/2012 - 17/04/2012)
5. A Seminar For Microbiologists, Chemist, Medical Technologists And Industrial Hygienists, Bilik Mesyuarat  
Akuatrop, UMT  
( 18/04/2012 - 18/04/2012)
6. Seminar Sehari E-Pembelajaran 2012, Dewan Sultan Mizan, UMT  
( 29/04/2012 - 29/04/2012)

- **May**

1. Seminar Kepimpinan dan Pembangunan Organisasi, Auditorium Mahyudin, FPE  
( 02/05/2012)
2. Seminar Pinjaman Perumahan Kerajaan, Auditorium PSNZ, UMT  
(15/05/2012)
3. Biotech Workshop On LC Operation And Maintainence  
( 21/05/2012 - 24/05/2012)
4. Bengkel Pemurnian Fail Meja Akautrop 2012, Bilik Gerakan HEPA, Kompleks Siswa, UMT  
( 29/05/2012 - 29/05/2012)
5. Sesi Kedua Pembentangan Pegawai Program Sangkutan Luar Negara, Auditorium Mahyudin, FPE  
( 31/05/2012 - 31/05/2012)

- **Jun**

1. Seminar Kesedaran Terhadap Gangguan Seksual Di Tempat Kerja, Auditorium PSNZ, UMT  
(13/06/2012)
2. Seminar Mencegah Kebakaran, Auditorium Inos/Akuatrop, UMT  
(20/06/2012)

3. Kursus Induksi (Modul Umum) Kumpulan Pengurusan dan Profesional dan Kumpulan Sokongan (Gred 27 - 32) Kali Ke-18 Bil. 1/2012, Bilik Tutorial, Fakulti Pengurusan dan Ekonomi, UMT (24 – 05/07/2012)

- **July**

1. Seminar Palestin Bumi Berdarah, Auditorium PSNZ (04/07/2012 - 04/07/2012)
2. Agilent Technologies Seminar For Advanced Analytical Instruments, Auditorium Inos, UMT (09/07/2012 - 09/07/2012)
3. Bengkel Strategi Meningkatkan Enrolmen Pelajar Pasca Siswazah UMT 2012 (12/07/2012 - 12/07/2012)
4. Demo Modul Keputusan Peperiksaan, Pusat Teknologi Maklumat, UMT (25/07/2012 - 25/07/2012)

- **August**

1. Tazkirah Ramadhan Akuatrop 2012, Bilik Mesyuarat Akuatrop, UMT (01/08/2012 - 01/08/2012)

- **September**

1. Program Sangkutan Luar Negara Sesi Ke 2012 (08/09/2012 - 21/09/2012)
2. Ujian Rintis E-Kenderaan, Makmal Komputer Kompleks Kuliah, UMT (12/09/2012 - 12/09/2012)
3. International Seminar On Effect Of Climate Change On Aquatic Ecosystem And Future Planning For Sustainable Aquaculture, Auditorium INOS (17/09/2012 - 18/09/2012)
4. Bengkel Pemantauan Laman Web PTJ UMT (18/09/2012 - 19/09/2012)
5. Revealing Scientific Journal Writings Skills Workshops (19/09/2012 - 19/09/2012)
6. Bengkel Penulisan Artikel Akademik, Dewan Jamuan DSM, UMT (23/09/2012 - 23/09/2012)
7. Ceramah Program Bulan Membaca 2012: Kesan Kepada Pembentukan Komuniti Kampus Berilmu, Auditorium PSNZ, UMT (25/09/2012 - 25/09/2012)

- **October**

1. World Cultural Diversity Day (08/10/2012 - 08/10/2012)
2. Kursus Protokol dan Etika , Hotel Felda Residence, Kuala Terengganu (10-11/06/2012)
3. Pembentangan Berkenaan Dalhousie University Dan Peluang Penyelidikan Oleh Prof. Dr. Thomas Mcrae, Bilik Seminar INOS, UMT (11/10/2012 - 11/10/2012)
4. Seminar Pembahagian Harta Pusaka, Auditorium INOS (11/10/2012)
5. Seminar Pengajian Siswazah, Auditorium Inos (15 – 16/10/2012)
6. Biotech Talk Series 10 & Open Day IBM 2012, Auditorium INOS/AKUATROP & Kompleks Makmal IMB, UMT (16/10/2012 - 16/10/2012)

7. Workshop Application Of Molecular Biology In The Research Of Marine Organism: Proteomics, Subtractive Hybrilization And Other Methods, Bilik Mesyuarat RMIC  
( 16/10/2012 - 16/10/2012)
8. Edutalks: Teaching and Learning in Higher Education (Prof Keith Trigwell, Uni. of Sydney)  
( 22/10/2012 - 22/10/2012)
9. Kempen Zero AEDES, PSNZ, UMT  
(24/10/2012 - 24/10/2012)
10. Seminar Keselamatan Perlindungan Pejabat, Auditorium Inos, UMT  
(24/10/2012)
11. Seminar Keselamatan Kunci Bilik Seminar Inos/Akuatrop, UMT  
(31/10/2012)

- **November**

1. Taklimat Skim Geran Knowledge Transfer Programme (Kpt) Pelan Rolling Ke 3 (2013), Bilik Seminar Inos  
( 07/11/2012 - 07/11/2012)
2. Bengkel Pemurnian Peraturan Program Pengajian Pasca Siswazah Struktur Kerja Kursus  
( 08/11/2012 - 10/11/2012)
3. Bengkel Pembenihan Udang Galah, Akuatrop, UMT  
( 21/11/2012 - 22/11/2012)
4. Seminar Jabatan Keselamatan Jalan Raya, Auditorium Inos/Akuatrop, UMT  
(27/11/2012)

- **Disember**

1. Taklimat Persediaan Peperiksaan Bayaran Insentif Tugas Kewangan, Bilik Seminar Inos  
( 03/12/2012)
2. Seminar Pengurusan Kewangan - Tuntutan Perjalanan dan SPA Web Base (TLM78)  
Auditorium Inos, UMT  
( 06/12/2012)
3. Kursus Penyambut Tetamu UMT  
( 12/12/2012 - 13/12/2012)
4. Kursus Induksi (Modul Khusus) Bagi Kumpulan Pengurusan & Profesional dan Kumpulan Sokongan (Gred 27-32) Kali Ke 20 (Bil. 3/2012) (IKP22), Bilik Seminar Inos/Akuatrop, UMT  
(17 – 20/12/2012)
5. Taklimat Perdana Geran-Geran KPT Fasa 1/2013 (FRGS,ERGS,PRGS), Auditorium Mahyuddin, FPE  
( 19/12/2012 - 19/12/2012)
6. Aquaculture Talk Series 1/2012, Auditorium INOS  
( 20/12/2012 - 20/12/2012)
7. Bengkel Program/Aktiviti Tahun 2013, Kompleks Kuliah Berpusat, UMT  
( 20/12/2012 - 20/12/2012)
8. Taklimat Kesihatan (Kekal Sihat Sepanjang Hari), Auditorium Inos/Akuatrop, UMT  
(23/12/2012)

### C. Workshop / Practical / Courses Participating by AKUATROP Staffs Organized by Other Institutions or Agencies

#### • January

1. Bengkel Pengukuhan Kumpulan Inovatif dan Kreatif (KIK) IPTA 2012, Hotel Renaissance, Kota Bharu, Kelantan, 05 – 07/01/2012
2. Kursus Pengurusan Aduan Pelanggan, Renaissance Hotel, Kota Bharu, 05 – 07/01/2012
3. Joint Research Project on Fish Taxonomy and Diversity in Malaysia, Kagoshima, Japan, 20 – 27/01/2012

#### • February

1. Kursus Pengurusan Aset dan Stor , Hotel Felda Residence, Kuala Terengganu, 01-02/02/2012

#### • March

1. Bengkel Penilaian Prestasi Dan Pelan Strategik Penyelidikan Akuatrop, Langkawi, Kedah, 01-03/03/2013
2. Konvensyen Kumpulan Inovatif dan Kreatif (KIK) Peringkat IPTA Kali Ke-18 IIUM 2012, Dewan Besar, Universiti Islam Antarabangsa Malaysia, 06 – 08/03/2012
3. Inland Fish Culture In Hungary : Successes And Failures Of Our Common Carp, Auditorium Inos (11/03/2012)
4. Persidangan Kebangsaan Pentadbiran Organisasi (PKPO) 2012, Hotel Permai, Kuala Terengganu, 13 – 15/03/2012
5. Kursus Pembenihan Ikan Air Tawar, Pusat Latihan Pengembangan Perikanan Perlok, Jerantut, Pahang, 18/03/2012 - 26/03/20, Perlok, Jerantut, Pahang
6. Bengkel Pemurniaan Bidang Pengajian Program Pasca Siswazah, Umt, Gem Beach Resort, Batu Rakit, Kuala Terengganu, 19/03/2012
7. Kursus Pemahaman Dan Pelaksanaan Iso, Hotel Tanjong Vista, Kuala Terengganu, 19 – 20/03/2012

#### • April

1. A Workshop On Application, Maintenance And Trouble-Shooting Of Ion Chromatography Instrumentation 2012, School of Chemical Sciences & Food Technology, Faculty of Science & Technology,UKM, School of Chemical Sciences & Food Technology, Faculty of Science & Technology,UKM, 18/04/2012 - 19/04/2012,
2. Kursus Asa Keusahawanan, Hotel Grand Continental, Kuala Terengganu, 18 – 19/04/2012

#### • May

1. Kursus Pelupusan, Kehilangan Dan Hapus Kira (Fin41) Sumai Suite Hotel, Kuala Terengganu, 15/05/2012
2. Seminar On Aquaculture Technology, Malaysian Fisheries Society, 19/05/2012 - 19/05/2012, Crowne Plaza Mutiara, Kuala Lumpur
3. Kursus Esteem Diri dan Kerjaya, Dewan Jamuan, DSM, Universiti Malaysia Terengganu, 20 – 21/05/2012
4. Bengkel Setiausaha Super!, UTMSPACE, 21/05/2012 - 22/05/2012, Hotel Quality City Centre, Kuala Lumpur

#### • Jun

1. Kursus Protokol dan Etika , Hotel Felda Residence, Kuala Terengganu, 10-11/06/2012
2. Bengkel Kumpulan Inovatif dan Kreatif Kali 1/2012, Hotel Grand Continental, Kuala Terengganu, 10 – 11/06/2012

- **July**
  1. Bengkel Strategi Meningkatkan Enrolmen Pelajar Pasca Siswazah UMT 2012, Quinara Al Safir Resort, Kolej Inforana, Kuala Terengganu, 12/07/2012
  2. Kursus Pengurusan Risiko Dalam Pengurusan Modal Insan, Ri-Yaz Heritage Marina Resort & Spa, Kuala Terengganu, 18 – 19/07/2012
  
- **Ogos**
  3. Kursus Pengurusan Risiko Dalam Pengurusan Modal Insan, Ri-Yaz Heritage Marina Resort & Spa, Kuala Terengganu, 18 – 19/07/2012
  
- **September**
  1. Program Sangkutan Luar Negara Sesi Ke 2012, University Nagasaki, Jepun, 08 – 21/09/2012
  2. Program Survival Laut dan Penghayatan Warisan UMT Kursus Induksi (Modul Umum) bagi Kumpulan P & P dan Kumpulan Sokongan Tahun 2012, Stesyen Penyelidikan Pulau Bidong, Terengganu, 11 – 12/09/2012
  
- **October**
  1. Program UV Workshop 2012, Fisher Scientific (M) Sdn Bhd, 10/10/2012 - 11/10/201, Makmal Keselamatan & Kualiti Makanan Di Bukit Tunggul
  2. Seminar Pasca Perkahwinan Keluarga Bahagia, Dewan Quinara Al Safir Resort, Kolej Inforana, Kuala Terengganu, 23/10/2012
  
- **November**
  1. Bengkel Pemurnian Peraturan Program Pengajian Pasca Siswazah Struktur Kerja Kursus, Awana Kijal Golf, Beach & Spa Resort, 08 – 10/11/2012
  
- **Disember**
  1. International fisheries symposium 2012, vietnam, 06 - 08/12/2012
  2. Kursus Penyambut Tetamu UMT, Ulek Beach Resort, Dungun, Terengganu, 12 – 13/12/2012

## Appendix 6: Awards and Achievements

### A. International

#### Liew Hon Jung

- 1 SEB Travel Grant, Society for Experimental Biology, The Company of Biology, United Kingdom (100,000 pound)

### B. Universiti Malaysia Terengganu (UMT)

#### Prof. Dr. Anuar bin Hassan

- 1 Excellent-in-Service Award, Universiti Malaysia Terengganu, 2012, University

#### Dr. Anil Chatterji

- 1 Silver Medal in Inovasi@UMT' 2012 for a prototype of a re-circulating aquaculture system
- 2 Tal Kit – Rapid Endotoxin Detection Kit, Anugerah Produk dan Inovasi Penyelidikan, Majlis Malim Ilmu 2012
- 3 A Simple Technique for Chromosome Preparation from Embryonic Tissues of teleosts for Ploidy Verification, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012
- 4 Effects of different environmental parameters on the respiratory metabolism of the larvae of Malaysian horseshoe crab, *Tachypleus gigas* (Müller), Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012
- 5 Oxygen Consumption in Juveniles of Tiger Shrimp, *Penaeus Monodon* (Fabricius) under Different Environmental Conditions, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012

#### Prof. Dr. Anuar bin Hassan/ Dr. Anil Chatterji

- 1 A Re-circulating Multipurpose Fish Egg Incubator, Anugerah Produk dan Inovasi Penyelidikan, Majlis Malim Ilmu 2012
- 2 Technique of Triploidy Induction for Enhancing Growth in Fishes, Anugerah Produk dan Inovasi Penyelidikan, Majlis Malim Ilmu 2012
- 3 Identification of diploid and triploid red tilapia by using erythrocyte indices, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012

#### Prof. Dr. Anuar bin Hassan/ Dr. Anil Chatterji/Mithun Sukumaran

- 1 Preliminary study on the feeding regime of laboratory reared Mud Crab larvae, *Scylla serrata* (Forsskal, 1775), Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012
- 2 Effect of probiotics on growth performance of juvenile Brown Marbled Grouper, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012

**Dr. Mhd Ikhwanuddin @ Polity Abdullah**

- 1 Pathogenicity and Antibiotic Sensitivity of Pathogenic Flora Associated with the Gut of Blue Swimming Crab, *Portunus Pelagicus* (Linnaeus, 1857), Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012.
- 2 Improved Hatchery-Rearing Techniques for Juvenile Production of Blue Swimming Crab, *Portunus pelagicus* (Linnaeus, 1758), Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012.
- 3 Biological Information and Population Features of Mud Crab, Genus *Scylla* from Mangrove Areas of Sarawak, Malaysia, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012.
- 4 A Novel of Gut Pathogenic Bacteria of Blue Swimming Crab *Portunus pelagicus* (Linnaeus, 1758) and Pathogenicity of *Vibrio harveyi* a Transmission Agent in Larval Culture under Hatchery Conditions, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012.
- 5 Supplementation of Indigenous *Lactobacillus* Bacteria in Live Prey and Water Additive to Larviculture of *Portunus pelagicus* (Linnaeus, 1758), Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012.
- 6 Determination of Live Prey Ingestion Capability of Blue Swimming Crab, *Portunus Pelagicus* (Linnaeus, 1758) Larvae, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012.
- 7 Fecundity of Blue Swimming Crab, *Portunus Pelagicus* Linnaeus, 1758 From Sematan Fishing District, Sarawak Coastal Water Of South China Sea, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012.
- 8 Excellent-in-Service Award, Universiti Malaysia Terengganu, 2012, University

**Dr. Mhd Ikhwanuddin @ Polity Abdullah/ Dr. Safiah Jasmani**

- 1 Assessment of Sperm Viability, Determination Fertilization Capacity and Hatching Rate by Artificial Insemination of Banana Shrimp, *Penaeus Merguensis* (De Man, 1888), Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012.

**Prof . Emeritus Dr. Faizah Mohd Sharoum**

- 1 Excellent-in-Service Award, Universiti Malaysia Terengganu, 2012, University

**Prof . Emeritus Dr. Faizah Mohd Sharoum/ Dr. Anil Chatterji**

- 1 A study on the energy source in the developing embryo of the mangrove horseshoe crab, *Carcinoscopius rotundicauda* ( Latreille), Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012



**Prof . Emeritus Dr. Faizah Mohd Sharoum/ Dr. Anil Chatterji/Mithun Sukumaran**

- 1 Trend in Ammonia Excretion During Acclimatization of Freshwater Red Hybrid Tilapia (*Oreochromis Mossambicus* (Peter, 1852) X *Oreochromis Niloticus* (Linnaeus,1758) in Different Salinities, Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012

**Dr. Mithun Sukumaran**

- 1 Unravelling a 146 Years Old Taxonomic Puzzle: Validation of Malabar Snakehead, Species-Status and Its Relevance for Channid Systematics and Evolution , Anugerah Artikel Jurnal Berwasit, Majlis Malim Ilmu 2012

**Appendix 7: Publications**

**A. Number of publications in indexed journal/ impact factor journal. (SCOPUS/ISI/SCI/SSCI/AI).**

- 1 Mastoi, A. M., **Mithun, S.**, Mastoi, **A.**, **Anuar, H.** **Anil, C.** (2012). Trend in oxygen consumption by the healthy and artifically infected fingerlings of Red Tilapia (*Oreochromis mossambicus* x *Oreochromis niloticus*). Indian J. Applied & Pure Bio. Vol. 27(1), 93-100. No IF
- 2 Ali Muhammad Mastoi, **Mithun Sukumaran**, Anila Mastoi, **Anuar Hassan and Anil Chatterji**. 2012. A comparison in lysozyme activity between oyster (*Saccostrea cucullata*; Born, 1778) and seaweed (*Sargassum baccularia*; Mertens) collected from Peninsular Malaysia. Journal of Coastal Environment, 3 (1). No. IF
- 3 Anil, C., **Mithun, S.**, Muhammad Haniff, M.Y., Pradeep, P.J., Srijaya, T.C., Bryan, R.N., Ali, M.M., **Anuar, H.**, (2012), Diurnal variations in the physico-chemical caharacteristics at Como Region in a man-made reservoir, Kenyir Lake, Malaysia, Malaysian Fisheries Journal, Vol 11:1-10
- 4 **Anil Chatterji, Mithun Sukumaran and Faizah Shaharom** (2012). Applications of seaweeds in biomedical science - an overview. Pertanika Journal of Agricultural Science.
- 5 Ali Muhammad Mastoi, **Mithun Sukumaran**, Anila Mastoi, **Anuar Hassan, Faizah Shaharom and Anil Chatterji** (2012). Differences in haematological parameters in normal, infected and immune-primed fingerlings of red tilapia (*oreochromis mossambicus* x *oreochromis niloticus*). Indian Journal of Applied & Pure Biology. (accepted)
- 6 **Ikhwanuddin, M., Azmie, G., , H. M.**, Abol-Munafi, A. B.,Zakaria, M. Z. and **Ambak, M. A.**, (2012), Tracking The Movement Of Mud Crabs, Genus *Scylla* From Mangrove Area Using Telemetry System, Borneo Science, Vol 30 : 40-56
- 7 Leaw Yoon Yau, **Faizah Shaharom, Anil Chatterji & Kua Beng Chu** (2012). Prevalence, mean intensity and site preference of *Caligus rotundigenitalis* Yu, 1933 (Copepoda: Caligidae) on cultured crimson snapper (*Lutjanus erythropterus* Bloch, 1790) from Bukit Tambun, Penang, Malaysia. Veterinary Parasitology, 181: 505-510

- 8 Leaw Yoon Yau, **Faizah Shaharom, Anil Chatterji**, Faizul Helmi & Beng Chu Kua (2012). Infection susceptibility of adult *Caligus rotundigenitalis* parasite on six species of marine finfishes cultured in cages in Penang, Malaysia. *Asian Fisheries Science* (accepted)
- 9 Padmaja Jayaprasad Pradeep, Thekkeparambil Chandrabose Sriyaya, Alessio Papini, **Anil kumar Chatterji** (2012). .Effects of triploidy induction on growth and masculinization of red tilapia [*Oreochromis mossambicus* (Peters, 1852) X *Oreochromis niloticus* (Linnaeus, 1758)]. *Aquaculture*, 344-349: 181-187. (doi: 10.1016/j.aquaculture.2012.03.006).
- 10 **Ikhwanuddin, M.**, Azra, M.N., Yeong, Y.S., Abol-Munafi, A.B. and Shabdin, M.L., (2012), Live Foods for Juvenile's Production of Blue Swimming Crab, *Portunus pelagicus* (Linnaeus, 1766)., *Journal of Fisheries and Aquatic Science*, Vol 7(4) : 266-278
- 11 **M. Ikhwanuddin**, Nurfaseha, A.H., Abol-Munafi, A.B. and Shabdin, M.L., (2012), Movement Patterns of Blue Swimming Crab, *Portunus pelagicus* in the Sarawak Coastal Water, South China Sea., *Journal of Sustainability Science and Management.*, Vol 7(1) : 8-15
- 12 **Ikhwanuddin, M.**, Azra, M. N., Talpur, A.D., Abol-Munafi, A. B. and Shabdin, M. L., (2012), Optimal Water Temperature and Salinity for Production of Blue Swimming Crab, *Portunus pelagicus* 1st Day Juvenile Crab., *Aquaculture, Aquarium, Conservation & Legislation.*, Vol 5(1) : 4-8
- 13 **M. Ikhwanuddin**, M. N. Azra, Y. S. Hii, Redzuari, **A., Aizam, Z.A.** A. B. Abol-Munafi., (2012), Ingestion rates of *Brachionus* sp. and *Artemia nauplii* by blue swimming crab, *Portunus pelagicus* (Linnaeus, 1758) larvae., *Journal of Fisheries and Aquatic Science.*, Vol 7(6) : 402-411
- 14 A.D. Talpur, A.J. Memon, M.I. Khan, **M. Ikhwanuddin**, M.M. Danish Daniel and A.B. Abol-Munafi, (2012), Isolation and Screening of Lactic Acid Bacteria from the Gut of Blue Swimming Crab, *Portunus pelagicus*, an in vitro Inhibition Assay and Small Scale in vivo Model for Validation of Isolates as Probiotics., *Journal of Fisheries and Aquatic Science.*, Vol 7(1) : 1-28
- 15 **Mhd Ikhwanuddin**, Juariah Hafsy Mansor, Abol-Munafi Ambok Bolong, Shabdin Mohd Long, (2012), Improved hatchery-rearing techniques for juvenile production of blue swimming crab, *Portunus pelagicus* (Linnaeus, 1758)., *Aquaculture Research*, Vol 43(9) : 1-9
- 16 A.J. Memon, A.D. Talpur, M.I. Khan, M.O. Fariddudin, **J. Safiah**1 A.B. Abol- Munafi1and **M. Ikhwanuddin**, (2012), Development of Shrimp Holder Device For Artificial Insemination in Banana Shrimp, *Penaeus merguensis* (De Man, 1888)., *Research Journal of Applied Science.*, Vol 7(1) : 10-16
- 17 A.D. Talpur, A.J. Memon, M.I. Khan, **M. Ikhwanuddin**, M.M. Danish Daniel and A.B. Abol-Munafi, (2012), Probiotic for Larviculture of *Portunus pelagicus* (Linnaeus, 1758), *International Journal of Current Research*, Vol 4(5) : 112-119
- 18 Hidayah, **M., Ikhwanuddin**, M., Shahreza, M.S., Abol - Munafi, A.B. and Mohd Fariddudin, O., (2012), Triploidy Induction Using Cold Shock Treatment In Banana Shrimp, *Penaeus Merguensis* (De Man, 1888), *Borneo Science*, Vol 30 : 64-69
- 19 **Ikhwanuddin, M., Azmie, G.**, , H. M., Abol-Munafi, A. B., Zakaria, M. Z. and **Ambak, M. A.**, (2012), Tracking The Movement Of Mud Crabs, Genus *Scylla* From Mangrove Area Using Telemetry System, *Borneo Science*, Vol 30 : 40-56

- 20 Talpur, A.D., Memon, A.J., Khan, M.I., **Ikhwanuddin, M.**, Daniel, M.M., Danish, Abol- Munafi, A.B., (2012), Inhibition of pathogens by lactic acid bacteria and application as water additive multi isolates in early stages larviculture of *P. pelagicus* (Linnaeus, 1758), *Journal of Animal and Plant Sciences*, Vol 22(1) : 54-64
- 21 Hafiz, M. B., Hidayah, M., Yusdianatu, A. Y., **Ambak, M. A.**, Abol-Munafi, A. B., and **Ikhwanuddin, M.**, (2012), Effect Of Oestrogen Hormone, 17β-Estradiol On Feminization, Survival Rate And Growth Rate Of Tiger Shrimp, *Penaeus Monodon* (Fabricius, 1798) Postlarvae, *Borneo Science*, Vol 30 : 70-80
- 22 Hasan Basri Idris, **Mohd Azmi Ambak** and **Ikhwanuddin Mohd**, (2012), Sex Determination in *Oxyeleotris marmorata* (Bleeker, 1852) Based on Morphometric Features, *Advances in Natural and Applied Sciences*, Vol 6(6) : 763-771
- 23 **Ikhwanuddin, M.**, Talpur, A. D., Zulizah, O., Hidayah, A. M. and Shamsuddin, A. A. and Abol-Munafi, A. B, (2012), Masculine effect of androgen hormone, 17α-Methyltestosterone on tiger shrimp, *Penaeus monodon* (Fabricius, 1798) postlarvae, *International Journal of Current Research*, Vol 4(10) : 59-64
- 24 A.D. Talpur, A.J. Memon, M.I. Khan, **M. Ikhwanuddin**, M.M. Danish Daniel and A.B. Abol-Munafi, (2012), Gut Lactobacillus sp. bacteria as probiotics for *Portunus pelagicus* larviculture: effects on survival, water quality and digestive enzyme activities, *Invertebrate Reproduction & Development*, Vol 56(5) : 1-12
- 25 Talpur, A.D., Memon, A.J., Khan, **M.I.**, **Ikhwanuddin, M.**, Daniel, M.M.D., Abol-Munafi, A.B., (2012), Control of *Vibrio harveyi* Infection in blue swimming crab, *Portunus pelagicus* larvae by the gut isolated lactic acid bacteria under challenge bioassay, *Pakistan Veterinary Journal*, Vol 32(3) : 408-411
- 26 **Ikhwanuddin, M.**, Azra, M.N., Siti-Aimuni, H. and Abol-Munafi, A.B., (2012), Fecundity, Embryonic and Ovarian Development of Blue Swimming Crab, *Portunus pelagicus* (Linnaeus, 1758) in Coastal Water of Johor, Malaysia., *Pakistan Journal of Biological Sciences*, Vol 15(15) : 720-728
- 27 **Ikhwanuddin, M.**, Talpur, A.D., Azra, M.N., Mohd Azlie, B., Hii, Y.S., Abol-Munafi, A.B., (2012), Effects of stocking density on the survival, growth and development rate of early stages blue swimming crab, *Portunus pelagicus* (Linnaeus, 1758) larvae, *World Applied Sciences Journal*, Vol 18(3) : 379-384
- 28 **Mhd Ikhwanuddin Abdullah**, Lyana, N.A., Bakar, N.H.A., **Jasmani, S.**, Bolong, A.- M.A., (2012), Stimulation of ovarian maturation using serotonin (5- hydroxytryptamine) hormone on banana shrimp, *Fenneropenaeus merguensis* (De Man, 1888), *World Applied Sciences Journal*, Vol 18(3) : 436-445
- 29 Talpur, A.D., **Ikhwanuddin, M.**, (2012), Dietary effects of garlic (*Allium sativum*) on haemato-immunological parameters, survival, growth, and disease resistance against *Vibrio harveyi* infection in Asian sea bass, *Lates calcarifer* (Bloch), *Aquaculture*, Vol 364-365 : 6-12
- 30 Talpur, A.D., **Ikhwanuddin, M.**, (2012), Effects of stress tests on larvae of blue swimming crab, *Portunus pelagicus* (Linnaeus, 1758), *Advances in Environmental Biology*, Vol 6(7) : 1909-1915
- 31 Talpur, A.D., **Ikhwanuddin, M.**, (2012), First isolation of *Vibrio probioticus* from the gut of *Portunus pelagicus* (Linnaeus 1758) and its probiotic competency against shellfish pathogens, *Pure and Applied Biology*, Vol 1(2) : 28-32

- 32 A.D. Talpur, A.J. Memon, M.I. Khan, **M. Ikhwanuddin**, M.M. Danish Daniel and A.B. Abol-Munafi, (2012), Effects of Lactobacillus Probiotic on the Enhancement of Larval Survival of *Portunus pelagicus* (Linnaeus, 1758) Fed Via Bioencapsulated in Live Feed, *World Journal of Fish and Marine science*, Vol 4(1) : 42-49
- 33 Memon, A.J., Talpur, A.D., Khan, M.I., Fariddudin, M.O., **Safiah, J.**, Abol-Munafi, A.B., **Ikhwanuddin, M.**, (2012), Morphology of Fresh and Cryopreserved Sperms of Banana Shrimp *Penaeus merguensis* (De Man, 1888), *Research Journal of Applied*, Vol 7(1) : 54-59
- 34 Memon, A.J., Talpur, A.D., Khan, M.I., Fanddudm, M.O., **Safiah, J.**, Abol-Munafi, A.B., **Ikhwanuddin, M.**, (2012), Optimization of Spermatophores Cryopreservation Protocol of Banana Shrimp (*Penaeus merguensis*) (De Man, 1888), *Journal of Animal and Veterinary Advances*, Vol 11(10) : 1688-1704
- 35 Memon, A.J., **Ikhwanuddin, M.**, Talpur, A.D., Khan, M.I., Fariddudin, M.O., **Safiah, J.**, Abol-Munafi, A.B., (2012), To determine the efficiency of different fresh diets in improving the spermatophore quality of banana shrimp *Penaeus merguensis* (De Man, 1888), *Journal of Animal and Veterinary Advances*, Vol 11(9) : 1478-1485
- 36 Nadiah, W.N., **Ikhwanuddin, M.**, Abol-Munafi, A.B., (2012), Remarks on the mating behavior and success of blue swimming crab, *Portunus pelagicus* (Linnaeus, 1766) through the induction of limb autotomy technique, *Journal of Animal and Veterinary Advances*, Vol 11(8) : 1149-1157
- 37 Redzuari, A., Azra, M.N., Abol-Munafi, A.B., **Aizam, Z.A.**, Hii, Y.S., **Ikhwanuddin, M.**, (2012), Effects of feeding regimes on survival, development and growth of blue swimming crab, *Portunus pelagicus* (Linnaeus, 1758) larvae, *World Applied Sciences Journal*, Vol 18(4) : 472-478
- 38 Azra, M.N., Wendy, W., Talpur, A.D., Abol-Munafi, A.B. and **Ikhwanuddin, M.**, (2012), Effect of Tank Colouration on Survival, Growth and Development Rate of Blue Swimming Crab, *Portunus pelagicus* (Linnaeus, 1758) Larvae, *International Journal of Current Research and Review*, Vol 4(12) : 117-123
- 39 Yoon Yau Leaw, **Shaharom Faizah, Chatterji Anil**, & Beng Chu Kua 2012. Prevalence, mean intensity and site preference of *Caligus rotundigenitalis* Yü, 1933 (Copepoda: Caligidae) on cage cultured
- 40 Choong FC, **Shaharom F**, Bristow GA & Kua BC. 2012. Probopyrus buitendijki (Isopoda, Bopyridae), a Parasitic Isopod on *Macrobrachium rosenbergii* in Timun River, Negeri Sembilan, Malaysia. *Crustaceana*, Vol. 84, pages 1051-1059.
- 41 Modu, B. M., M. F. Saiful, M. Kartini, Zaleha Kassim, Marina Hassan and **F. M. Shaharom-Harrison**. 2012 . Spatial Distribution of Monogenean and their Prevalence in Two Freshwater Fish Species in Relation to some Physico-chemical Parameters of Lake Kenyir, Malaysia. *Journal of Sustainability*
- 42 Modu, B. M., M. F. Saiful, M. Kartini, Zaleha Kassim, Marina Hassan and **F. M. Shaharom-Harrison**. (2012). Effects of Water Quality and Monogenean Parasite in the Gills of Freshwater Cat Fish, *Hemibagrus nemurus Valenciennes 1840*. *Current Research Journal of Biological Sciences*, 4 (3) 242-246.
- 43 Modu, B. M., M. F. Saiful, M. Kartini, Zaleha Kassim, Marina Hassan and **F. M. Shaharom-Harrison**. (2012). A New Species of Gill Monogenea (*Dactylogyrus diesing*, 1850) from *Hampala macrolepidota Valenciennes (Cyprinidae)* in Sungai Kiang and Tanjung Mentong, Tasik Kenyir: Malaysia. *Current Research Journal of Biological Sciences*, 4(4): 488-491.

- 44 Modu, B. M., M. F. Saiful, M. Kartini, Zaleha Kassim, Marina Hassan and **F. M. Shaharom-Harrison**. (2012). Monogenean Parasites as Bioindicator of Water Quality: Evidence from the Field Survey. *Zoological Science*.
- 45 Csaba, S., **F. M. Shaharom-Harrison**., Gabor, C., M. Kartini, Nor Atikah, M.Z., M. Hafiz Borkhanuddin, Gyorgyi Ostoros, Kalmn Molnar., 2012. Myxozoan Infection of the Malaysian Mahseer, *Tor tambroides* of Tasik Kenyir Reservoir, Malaysia: Description of a New Species *Myxobolus tambroides* sp.. *Journal of Parasitology Research*.
- 46 Choong FC, **Shaharom F**, Bristow GA & Kua BC. (2012). Infection of Apicomplexan parasite *Nematopsis* spp. in wild giant freshwater prawn, *Macrobrachium rosenbergii* in Malaysia. (*Crustaceana*) accepted and in press.
- 47 Shinji J, Okutsu T, Jayasankar, V, **Jasmani, S**, Wilder MN., (2012), Metabolism of amino acids during hyposmotic adaptation in the whiteleg shrimp, *Litopenaeus vannamei*., *Amino Acids*
- 48 **Hon Jung Liew**, Amit Kumar Sinha, Nathalie Mauro, Marjan Diricx, Ronny Blust, Gudrun De Boeck. 2012. Fasting goldfish, *Carassius auratus* and common carp, *Cyprinus carpio*, use different metabolic strategies when swimming. *Comparative Biochemistry and Physiology, Part A*. 163:327-335.
- 49 Amit Kumar Sinha, Marjan Diricx, Lai Pong Chan, **Hon Jung Liew**, Vikas Kumar, Ronny Blust, Gudrun De Boeck. 2012. Expression pattern of potential biomarker genes related to growth, ion regulation and stress in response to ammonia exposure, food deprivation and exercise in common carp (*Cyprinus carpio*). *Aquatic Toxicology*, 122-123:93-105.
- 50 Amit Kumar Sinha, **Hon Jung Liew**, Marjan Diricx, Vikas Kumar, Veerle M. Darras, Ronny Blust, Gudrun De Boeck. 2012. Combined effects of high environmental ammonia, starvation and exercise on hormonal and ion-regulatory response in goldfish (*Carassius auratus* L.). *Aquatic Toxicology*, 114-115:153-164.
- 51 Amit Kumar Sinha, **Hon Jung Liew**, Marjan Diricx, Ronny Blust, Gudrun De Boeck. 2012. The interactive effects of ammonia exposure, nutritional status and exercise on metabolic and physiological responses in gold fish (*Carassius auratus* L.). *Aquatic Toxicology*, 109: 33-46.

#### **B. Number of publications in referred proceedings.**

- 1 **Azmie, G.M.**, Nur Farhana, M.J., Abol-Munafi, A.B. and **Ikhwanuddin, M.** (2012), *Species Composition and Biological Information of Mud Crab, Genus Scylla from Johor Coastal Water, Malaysia*, International Seminar on Marine Science & Aquaculture, 12/03/2012, 15/03/2012, Kota Kinabalu, Sabah
- 2 Azra, M.N., Wendy, W., Abol-Munafi, A.B. and **Ikhwanuddin, M.** (2012), *Effects of Tank Colour on Survival, Growth and Development of Blue Swimming Crab, Portunus pelagicus (Linnaeus, 1758) Larvae*, International Seminar on Marine Science & Aquaculture, 13/03/2012, 15/03/2012, Kota Kinabalu, Sabah

- 3 Z. Siti Nor Fatihah, A. H. Nurfaseha, A. M. Muhammad Effenddy, A. Siti Aishah and **M. Ikhwanuddin**. (2012), *Effect of Temperature on the Embryonic Development of Mud Spiny Lobster, Panulirus polyphagus*, UMT 11th International Annual Symposium on Sustainability Science and Management, 09/07/2012, 11/07/2012, Terengganu
- 4 **Ikhwanuddin, M.**, Rabiatul Adawiyah and Abol-Munafi, A.B (2012), *Fecundity and ovarian maturation stages of flathead lobster, Thenus orientalis (Lund, 1793) from peninsular Malaysia*, International Fisheries Symposium, 06/12/2012, 08/12/2012, Can Tho, Vietnam
- 5 Noor Baiduri S., Nurul Akmal S. and **Ikhwanuddin, M.** (2012), *Induce mating trials and observation of mating process for crossbreeding of two mud crab species, Scylla olivacea and scylla tranquebarica*, International Fisheries Symposium, 06/12/2012, 08/12/2012, Can Tho, Vietnam
- 6 **Azmie, G.**, Abol-Munafi, A.B., Mohd Faizal, W.W.Y. and **Ikhwanuddin, M.** (2012), *Effects of natural diets on ovarian maturation stages of orange mud crab, Scylla olivacea (Herbst, 1796)*, International Fisheries Symposium, 06/12/2012, 08/12/2012, Can Tho, Vietnam
- 7 Noor Hidayati, A.B., Shahreza, M.S. and **Ikhwanuddin, M.** (2012), *Gynogenesis success of banana shrimp, Fenneropenaeus merguensis through sperm viability assessment*, International Fisheries Symposium, 06/12/2012, 08/12/2012, Can Tho, Vietnam
- 8 H. Nurfaseha, Z. Siti Nor Fatihah, Z.Z Tira, A. Ahmad Shamsudin and **M. Ikhwanuddin** (2012), *Effect of Salinity on Ovarian Development of Mud Spiny Lobster, Panulirus polyphagus.*, UMT 11th International Annual Symposium on Sustainability Science and Management, 09/07/2012, 11/07/2012, Terengganu
- 9 M. B. Hafiz, **J. Safiah**, A. B. Abol-Munafi and **M. Ikhwanuddin** (2012), *Effect of Estrogen Hormone, 17 $\beta$ -estradiol on Feminization, Survival and Growth Rate of Banana Shrimp, Fenneropenaeus merguensis (De Man, 1888) Postlarvae.*, UMT 11th International Annual Symposium on Sustainability Science and Management, 09/07/2012, 11/07/2012, Terengganu
- 10 D. Siti Zuriati, **M. Ikhwanuddin**, A. B. Abol-Munafi and **J. Safiah** (2012), *Effect of Probiotics on Growth and Survival Rate of Pacific White Shrimp, Litopenaeus vannamei Postlarvae Cultured at Low Salinity.*, UMT 11th International Annual Symposium on Sustainability Science and Management, 09/07/2012, 11/07/2012, Terengganu
- 11 M.N. Azra, **J. Safiah**, A.B. Abol-Munafi and **M. Ikhwanuddin** (2012), *Effects of 20- Hydroxyecdysone on Early Larval Stages of Blue Swimming Crabs, Portunus pelagicus (Linnaeus, 1758)*, UMT 11th International Annual Symposium on Sustainability Science and Management, 09/07/2012, 11/07/2012, Terengganu
- 12 **G. Azmie**, A. B. Abol-Munafi , W.W.Y. Mohd Faizal and **M. Ikhwanuddin** (2012), *Ovarian Maturation Stages of Orange Mud Crab, Scylla olivacea.*, UMT 11<sup>th</sup> International Annual Symposium on Sustainability Science and Management, 09/07/2012, 11/07/2012, Terengganu

- 13 **Ikhwanuddin, M.**, Nurul Jannah, R., Nurfaseha, A.H., Zakaria, M.Z. and Abol-Munafi, A.B. (2012), *Biological Features of Mud Spiny Lobster, Panulirus polyphagus (Herbst, 1793) from Johor Coastal Water, Malaysia*, International Seminar on Marine Science & Aquaculture, 13/03/2012, 15/03/2012, Kota Kinabalu, Sabah
- 14 **Suhairi, M.**, Hafizani, Z., Abol-Munafi, A.B. and **Ikhwanuddin, M.** (2012), *Biological Information of Orange Mud Crab, Scylla olivacea (Herbst, 1796) from Kedah Coastal Water, Malaysia*, International Seminar on Marine Science & Aquaculture, 13/03/2012, 15/03/2012, Kota Kinabalu, Sabah
- 15 Siti Nor Fatimah, Z., Nurul Syazwani, M., **Safiah, J.** And **Ikhwanuddin, M** (2012), *Effects of 17 $\beta$ -Testosterone Undercoate on the Quality of Mud Spiny Lobster, Panulirus polyphagus (Herbst, 1793).*, International Seminar on Marine Science & Aquaculture, 13/03/2012, 15/03/2012, Kota Kinabalu, Sabah
- 16 Nurul Huda, A., Chark, L.W. **Safiah, J.**, Abol-Munafi, A.B. and **Ikhwanuddin, M** (2012), *Effect of Water Temperature and Photoperiod on Female Ovarian Development and Oviposition of Orange Mud Crab, Scylla olivacea (Herbst, 1796)*, International Seminar on Marine Science & Aquaculture, 13/03/2012,15/03/2012, Kota Kinabalu, Sabah
- 17 Nurfaseha, A.H., Fathiah, M., Ahmad Shamsuddin, A. and **Ikhwanuddin, M** (2012), *Effects of Water Temperature on Ovarian Development of Mud Spiny Lobster, Panulirus polyphagus (Herbst, 1793)*, International Seminar on Marine Science & Aquaculture, 13/03/2012, 15/03/2012, Kota Kinabalu, Sabah
- 18 Anur, A. Nagi., **Safiah Jasmani, Mhd Ikhwanuddin**, Marina Hassan (2012), *Histopathological study on the effects of methanolic extracts of melaleuca cajuputi on African Catfish, Clarias gariepinus.*, The 12th Symposium of the Malaysian Society of Applied Biology, 01/06/2012, 03/06/2012, Ri-Yaz Heritage Marina Resort and Spa, Kuala Terengganu
- 19 **Azmie, G.**, Abol-Munafi, A.B., Mohd Faizal, W.W.Y. and **Ikhwanuddin, M.** (2012), *Effects of natural diets on ovarian maturation stages of orange mud crab, Scylla olivacea (Herbst, 1796)*, International Fisheries Symposium, 06/12/2012, 08/12/2012, Can Tho, Vietnam
- 20 **Azmie, G.M.**, Nur Farhana, M.J., Abol-Munafi, A.B. and **Ikhwanuddin, M.** (2012), *Species Composition and Biological Information of Mud Crab, Genus Scylla from Johor Coastal Water, Malaysia*, International Seminar on Marine Science & Aquaculture, 12/03/2012, 15/03/2012, Kota Kinabalu, Sabah
- 21 Marina, H., S.N. Nor-Azri., M.D. Muhamad-Zaim, **W.Wahidah** and **Z. Ihwan** (2012). Occurrence of Trypanosoma sp in wild macrognathus maculates (Cuvier 1832) in Setiu River, Malaysia. Universiti Malaysia Terengganu 11th International Annual Symposium. 9th - 11th July 2012. Ri-Yaz Heritage Marina Resort and Spa, Kuala Terengganu, Terengganu, Malaysia.
- 22 Marina, H., **Z. Ihwan** and N.M. Sandra-Dewi (2012). A study of salinity tolerance on tilapia (Oreochromis niloticus). 5th International Congress of Environmental Research 2012. Malaysia. 22-24 November 2012.

- 23 Marina, H., **Z. Ihwan** and B.M.S. mohd-Saiful (2012). The effects of leech (Hirudinidae) bites on freshwater eel, *Monopterus albus*. 5th International Congress of Environmental Research 2012. Malaysia. 22-24 November 2012.
- 24 Marina, H., T.S. Chuah., **Z. Ihwan** and Nurasilah, I. (2012). Acute toxicity of Ametryn on freshwater eel (*Monopterus albus*). 5th International Congress of Environmental Research 2012. Malaysia. 22-24 November 2012.
- 25 **Wahidah, W.**, Marina, H. and **Z. Ihwan** (2012). Infestation of crustacean parasite (*Probopyrus* sp) on *Macrobrachium lanchesteri* from Nyatoh River, Setiu, Terengganu, Malaysia. 21th Scientific Conference of the Microscopy Society Malaysia. 22-24 November 2012. Malaysia.
- 26 **Ihwan, Z.**, Marina, H. and **Wahidah, W.** (2012). Morphological characteristic of Pedunculate barnacle attached on gill of wild mud crab *Scylla olivacea* from Setiu Wetland, Terengganu, Malaysia. 21th Scientific Conference of the Microscopy Society Malaysia. 22-24 November 2012. Malaysia.
- 27 Marina Hassan, **M.Z. Ihwan**, S.H. Nor-Azri and M.D. Muhamad-Zaim (2012). Hematological changes in the freshwater eel (*Monopterus albus*) infected with *Trypanosoma* sp. International Fisheries Symposium. 6th-8th December 2012. Can Tho, Vietnam.
- 28 **Mohd Ihwan Zakariah**, M.D. Muhamad-Zaim, S.H. Nor-Azri, **W. Wahidah** and H.Marina (2012). A preliminary study of parasitic infections of freshwater eel (*Monopterus albus*) from Peninsular Malaysia. International Fisheries Symposium. 6th-8th December 2012. Can Tho, Vietnam.
- 29 **Ihwan, M. Z.**, **Wahidah, W.**, Borkhanuddin, M. H., **Shaharom-Harrison, F. M.** & Bristow, G., (2012). Scanning Electron Micrograph of Nematode Third-Stage Larvae (*Anisakis* sp) in *Nemipterus peronei* From South China Sea. Extended Proceeding. 21th Scientific Conference of the Microscopy Society Malaysia. 22-24 November 2012. Malaysia. 285p.
- 30 Surzanne, M.A, **Mithun Sukunmaran** and **F. Shaharom-Harisson**, 2012. The effect of seasonal changes on distribution of monogenean gill parasite on cage-cultured red tilapia (*oreochromis* sp) at Como river, Kenyir Lake. Paper presented in Seminar on Effect of Climate Change on Aquatic Ecosystem and Future Planning for Sustainable Aquaculture, organized by Universiti Malaysia Terengganu from 17-18 September' 2012 at Kuala Terengganu, Malaysia.
- 31 **Anil Chatterji**, **Mithun Sukumaran**, **M. Y. Haniff**, Anuar **Hassan** and **Faizah Shaharom**. Formation of thermal bar in a manmade Lake Kenyir of Malaysia - an unusual phenomenon of climate change. Paper presented in Seminar on Effect of Climate Change on Aquatic Ecosystem and Future Planning for Sustainable Aquaculture, organized by Universiti Malaysia Terengganu from 17-18 September' 2012 at Kuala Terengganu, Malaysia.
- 32 **Anil Chatterji**, **Mithun Sukumaran**, **Anuar Hassan** and **Faizah Shaharom**, 2012. The Effect Of Climate Change on Survival of Commercially Important Finishes Grown in Cages at Lake Kenyir in Malaysia. International Seminar of Australasian Aquaculture, 2012 - Melbourne, Victoria, Australia - May 1 - 4, 2012.
- 33 **Aizam Zainal Abidin**, Mohamad Roshidy Mohamad Rathy, Mohd Irwan Mohd Hussin and Mohd Asri zulkifli (2012). A new concept in the culture of Giant Freshwater Prawn, *Macrobrachium rosenbergii* (de Man). Oral Presentation at International Seminar on Marine Science and Aquaculture (ISOMSA) 2012, Promenade Hotel Kota Kinabalu, March 13<sup>th</sup> – 15<sup>th</sup>.



- 34 Jalilah, M., **Aizam, Z. A.**, and **Safiah, J.** (2012). The reproductive Biology and Age at First Maturity of Indigenous Climbing Perch *Anabas testudineus* (Bloch) in Malaysia. Oral Presentation at International Seminar on Marine Science and Aquaculture (ISOMSA) 2012, Promenade Hotel Kota Kinabalu, March 13<sup>th</sup> – 15<sup>th</sup>.
- 35 Zulizah, O., **Aizam, Z.A.**, **Anuar, H.**, Amirul, A.A., (2012). An assessment of the Physico-Chemical Properties of Kenyir Lake with Emphasis on Freshwater Mussel Production. (UMTAS 2012). Ri-Yaz Heritage Marina Resort & Spa, Kuala Terengganu, Malaysia.
- 36 **Anuar, H.**, Pradeep, P.J., (2012). Triploidy induction of red hybrid tilapia using shock treatment, International Fisheries Symposium 2012, Submitted, December 6 – 8, 2012. Cant Tho University, Vietnam.
- 37 **Anil Chatterji, Mithun Sukumaran, Anuar Hassan** and **Faizah Shaharom**, 2012. The Effect Of Climate Change on Survival of Commercially Important Finishes Grown in Cages at Lake Kenyir in Malaysia. International Seminar of Australasian Aquaculture, 2012 - Melbourne, Victoria, Australia - May 1 - 4, 2012.
- 38 **Anil Chatterji**, (2012). The effect of climate change on survival of commercially important finishes grown in cages at Lake Kenyir in Malaysia. Australasian Aquaculture 2012 - Melbourne, Victoria, Australia (May 1 - 4, 2012).
- 39 Surzanne, M.A, **Mithun Sukunmaran** and **F. Shaharom-Harisson**, 2012. The effect of seasonal changes on distribution of monogenean gill parasite on cage-cultured red tilapia (*oreochromis* sp) at Como river, Kenyir Lake. Paper presented in Seminar on Effect of Climate Change on Aquatic Ecosystem and Future Planning for Sustainable Aquaculture, organized by Universiti Malaysia Terengganu from 17-18 September' 2012 at Kuala Terengganu, Malaysia.

**C. Other publications that impacts the government/society/policy such as newspaper articles, newsletter, proceedings and etcetera.**

- 1 Biological activities in horseshoe crabs, *Tachypleus gigas* (Müller) and *Carcinoscorpius rotundicauda* (Latreille). Ismail, N., Nadzari, F. Izzatul Huda, A.G., Nazeerah, A. R. Taib, M., **Chatterji, A.** and. Shamsuddin, A.
- 2 Allometric Variations of Horseshoe Crab (*Tachypleus gigas*) Populations Collected from two different habitate at Chendor and Cherating, Pahang, Peninsular Malaysia. Ismail, N., Jolly, J. J., Dzulkiply, S. K., Mohd Mustakim, M. K., Nik Mohd Hafiz, A., A. Huda, G. Izzatul, Faezah, S. Siti and **Chatterji, A.**
- 3 Diurnal variations in the physico-chemical properties of a manmade Lake Kenyir in Malaysia. Malaysian Fisheries Journal. **Anil Chatterji, Mithun, Sukumaran, Muhammad Haniff Mohd Yosoff** Pradeep, P.J., Srijaya, T.C., **Faizah Shaharom, Anuar Bin Hassan.**
- 4 A new record on the formation of thermal bar in a manmade Lake Kenyir of Malaysia - an unusual phenomenon of climate change. International journal of Environmental Research. **Anil Chatterji, Mithun Sukumaran, Muhammad Haniff Mohd Yosoff, Anuar Bin Hasan and Faizah Shaharom**