



# Certification of Participation

This is to certify that

**MOHAMMAD MUSTAFIZUR RAHMAN**

has participated in

*2<sup>nd</sup> IIUM Congress on Science iCOS 2016*

**2<sup>nd</sup> INTERNATIONAL CONFERENCE ON OCEANOGRAPHY AND SUSTAINABLE MARINE PRODUCTION (ICOSMAP 2016)**

**DATE:**

**23<sup>rd</sup> - 24<sup>th</sup> AUGUST 2016**

**VENUE:**

**KULLIYAH OF SCIENCE, IIUM Kuantan, Malaysia**

**PROF. DR. KAMARUZZAMAN YUNUS**

Dean,

Kulliyah of Science,

International Islamic University Malaysia

**ASSOC. PROF. DR. SHAHBUDIN SAAD**

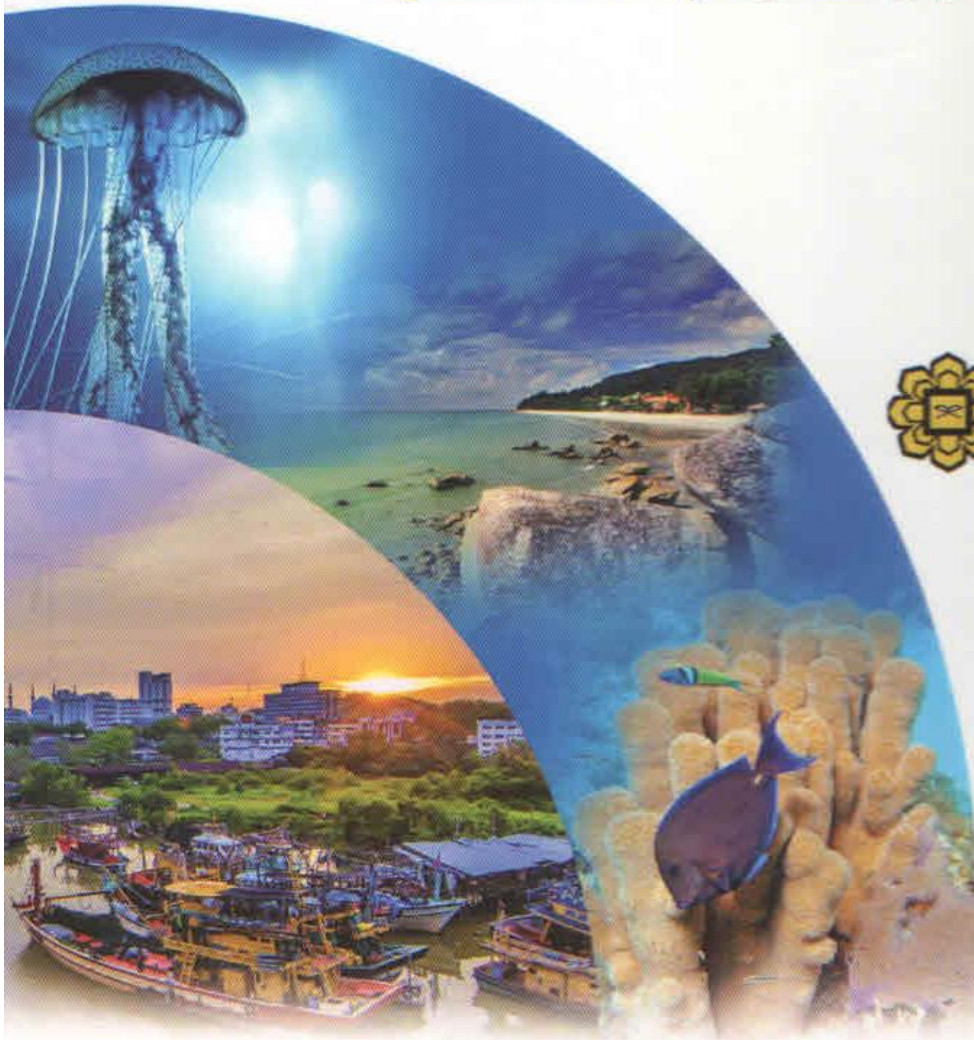
Chairman,

2<sup>nd</sup> International Conference on Oceanography  
and Sustainable Marine Production (ICOSMAP 2016)

**2<sup>nd</sup> International Conference on  
Oceanography and Sustainable Marine  
Production (ICOSMaP 2016)**

**International Islamic University Malaysia. Kuantan,  
Pahang**

**JOINTLY ORGANIZED BY  
Department of Marine Science, Kulliyah of Science,  
International Islamic University Malaysia (IIUM),  
Malaysia  
&  
Kagoshima University, Kagoshima, Japan**



الجامعة الإسلامية العالمية  
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
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鹿児島大学  
Kagoshima University



**Venue: Main Auditorium**  
**Day 2: 24/08/2016 (Wednesday)**

Theme: Aquaculture and Fisheries (AFI)				
Chairperson: Asst. Prof. Dr. Mohd Zani Mustapa				
Time	Presenter	Presentations Titles	Abs. ID	Page No.
09:40 am - 10:00 am	Sharr Azni Harmin	Isolation and Characterization of Vitellogenin in Important Aquaculture Species in Malaysia	AFIO03	61
10:00 am - 10:20 am	Zaleha Kassim	Early Growth of Slipper Cupped Oyster ( <i>Crassostrea iredalei</i> ) Larvae Feeding on Marine Microalgae ( <i>Chlorella vulgaris</i> )	AFIO04	62
10:20 am - 10:40 am	Muhammad Mu'izzuddin Afandi	Morphological and 18S Rna Sequencing of Euplotes Sp. : A Potential Live Feed for Marine Finfish Larvae	AFIO05	63
10:40 am - 11:00 am	REFRESHMENT AND POSTER VIEWING SESSION			
Theme: Aquaculture and Fisheries (AFI)				
Chairperson: Asst. Prof. Dr. Nur Nazifah Mansor				
11:00 am - 11:20 am	Muhammad Firdaus Sallehudin	The Effects of Light Wavelengths and Light Intensities on the Aggressive Behaviour of African Catfish <i>Clarias gariepinus</i> Juveniles	AFIO06	64
11:20 am - 11:40 am	Nor Amira	Cortisol (Stress) Level of Sutchi Catfish ( <i>Pangasianodon hypophthalmus</i> ) Juvenile Under Different Light Wavelengths and Intensities	AFIO07	65
11:40 am—12:00 pm	Nai Han Tan	A Spectrophotometric Study on the Visual Pigments from Retinal Photoreceptors of Juvenile Sutchi Catfish <i>Pangasianodon hypophthalmus</i>	AFIO08	66
12:00 pm -12:20 pm	Leong-Seng Lim	Feeding Response of Juvenile Marble Goby <i>Oxyeleotris marmoratus</i> to Free Amino Acids	AFIO09	67
12:20 pm—12:40 pm	Shaidatul Nadia Waludin	Genetic Diversity of the Orange-spotted Grouper ( <i>Epinephelus coioides</i> ) in Terengganu Malaysia Based on Mitochondrial Cytochrome b Sequence Data	AFIO10	68
12:40 pm - 02:00 pm	LUNCH BREAK			
Theme: Aquaculture and Fisheries (AFI)				
Chairperson: Assoc. Prof. Dr. Mohammad Mustafizur Rahman				
02:00 pm - 02:20 pm	Mohd Razali Md Razak	Fishery Aspect of Horseshoe Crab, <i>Tachypleus gigas</i> in the Peninsular Malaysia: Exploitation Status	AFIO11	69
02:20 pm - 02:40 pm	Najmus Sakib Khan	Dynamics of Dissolved Inorganic Nitrogen in a Tropical Tidal River	AFIO12	70
02:40 pm - 03:00 pm	Nurul Huda	Utilization Of Tuna Waste Product For The Production of Traditional Fermented Product 'Bakasang'	AFIO13	71
03:00 pm - 03:20 pm	Mohd Azim bin Mohd Khatib	Population Dynamics of <i>Gerres oyena</i> ( Forsskal, 1775) in the Estuary of Marudu Bay, Sabah, Malaysia	AFIO14	72
03:20 pm - 03:40 pm	REFRESHMENT AND POSTER VIEWING SESSION			



## DYNAMICS OF DISSOLVED INORGANIC NITROGEN IN A TROPICAL TIDAL RIVER

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Dissolved inorganic nitrogen plays a critical role in controlling primary production in the river ecosystem. A 12-month study (September 2014-August 2015) was conducted to know the spatio-temporal dynamics of inorganic nitrogen in the Kuantan river which is influenced by daily tidal activity. Various forms of inorganic nitrogen ( $\text{NO}_2\text{-N}$ ,  $\text{NO}_3\text{-N}$  and  $\text{NH}_3\text{-N}$ ) were measured at two sampling sites: 5 (near Kuantan city) and 10 (upstream, freshwater zone) km upstream from the Kuantan river estuary. Each zone had a total of three sampling stations which were considered as replication. Besides inorganic nitrogen, physical parameters such as water temperature, dissolved oxygen (DO),  $\text{p}^{\text{H}}$ , conductivity, salinity were measured. All parameters were measured in the three layers (surface, middle and bottom) of the water column in each sampling station. Results indicated that mean inorganic nitrogen concentration near the Kuantan city ( $2.25 \pm 0.09 \text{ mg L}^{-1}$ ) was significantly higher than the mean inorganic nitrogen concentration in the upstream zone ( $1.46 \pm 0.11 \text{ mg L}^{-1}$ ). This might be due to organic discharge into the river from the Kuantan city compare to upstream zone. Similar pattern of inorganic nitrogen concentration was also observed in the case salinity, conductivity and DO concentrations. Overall inorganic nitrogen content was higher near the bottom water ( $2.15 \pm 0.16$ ) compare to surface ( $1.65 \pm 0.10$ ) and middle ( $1.75 \pm 0.12$ ) layers of water. Both temperature and dissolved oxygen concentration were higher in the surface water compare to middle and bottom layers of water. The mean highest and lowest inorganic nitrogen concentrations were observed in January ( $0.70 \pm 0.15$ ) and May ( $3.46 \pm 0.25$ ), respectively. The overall mean inorganic nitrogen concentrations were lower in the monsoon months compare to non-monsoon months.

**Keywords:** estuary, tropical river, Kuantan, Malaysia, dissolved oxygen, conductivity