







DR. HING LEE SIANG




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QUALIFICATIONS

-  Doctor of Philosophy (Marine Ecotoxicology), Royal Holloway, University of London
-  Master of Science (Environment), Universiti Putra Malaysia
-  Bachelor of Science (Marine Science), Universiti Putra Malaysia





FIELD OF RESEARCH

-  Pollutant Toxicity on Marine Organisms
-  Ballast Water Pollution
-  Marine Pollution

RESEARCH INTEREST

My research interests are in the field of marine environmental toxicology. This covers the study of pollutants level, their fate and impact on living organisms. The major product from my PhD research was a laboratory scale continuous culture system used to simulate oil spill effect on marine phytoplankton. My current research is on issues related to ballast water. These include the formulation of national ballast water sampling strategy, the determination of physico-chemical parameters, species and pollutants contents in ballast water, as well as baseline study on biological and environmental aspect at major ports and coastal waters of Malaysia.

RESEARCH PROJECTS

-  The impact of anthropogenic geomorphological changes at Sungai Terengganu estuary on biogeochemical processes of nutrients.
-  Biogeochemical process of heavy metal at Sungai Terengganu estuary.
-  Biological baseline survey at major ports of Malaysia.
-  Ballast water pollution from commercial ships berth at major ports of Malaysia

EXPERT LINKAGES

- ⚓ Malaysian Maritime Academy (ALAM)
- ⚓ Universiti Teknologi Malaysia (UTM)
- ⚓ Ministry of Transport/Marine Department Malaysia
- ⚓ Maritime Institute of Malaysia (MIMA)
- ⚓ Johor Port Authority

GRANTS

Project : The impact of anthropogenic geomorphological changes at Sungai Terengganu estuary on biogeochemical processes

Position : Project Leader

Grant Name : Fundamental Research Grant Scheme (FRGS)

Status : Active

Amount : RM 77,200.00

Project : Marine Invasive Species in Ballast Water from Commercial Ships Berthed at Ports of Malaysia

Position : Project Leader

Grant Name : e-Science Fund

Status : Completed

Amount : RM244,140.00

Project : Extend of transfer of alien invasive organisms in Malaysia by Shipping

Position : Project Leader

Grant Name : ASEAN-India Cooperation

Status : Completed

Amount : RM33,501.60

Project : Alien Microbial Species and Water Brought To Malaysia Through Ballast Water Discharged

Position : Project Leader

Grant Name : Fundamental Research Grant Scheme (FRGS)

Status : Completed

Amount : RM43,750.00

Project : Heavy metal detoxification in marine microalgae
Position : Project Leader
Grant Name : E–Science Fund
Status : Completed
Amount : RM200,500.00

PUBLICATIONS

Journal Article

1. Balaji R, Hing LS, Yaakob O, Koh KK, Adnan FA, Ismail N, Ahmad B, Ismail MAB & Wan Nik WB (2017) Laboratory tests on heat treatment of ballast water using engine waste heat. *Environmental Technology*, Vol. 7: 1– 13.
2. Balaji R, Yaakob O, King K, Adnan FA, Ismail N, Ahmad B, Ismail MA, Hing LS & WB Wan Nik (2015) A ballast water treatment system using engine waste heat: is it viable? *Journal of Transport System Engineering*, Vol. 2(3): 31–36.
3. Joseph J, Ali SN & Hing LS (2014) Heavy metal compositions in Green turtle (*Chelonia mydas*) eggs from nesting beaches in Peninsular Malaysia. *Asian Journal of Conservation Biology*, Vol. 3(1): 83–87
4. Hing LS, Ford TW, Finch P, Crane M & Morrite D (2011) Laboratory stimulation of oil spill effects on marine phytoplankton. *Aquatic Toxicology*, Vol. 103(1–2): 32–37.
5. Hii YS, Shia KL, Chuah TS & Hing LS (2009) Physiological responses of *Chaetoceros* sp. and *Nannochloropsis* sp. to short-term 2, 4–D, dimethylamine and endosulfan exposure. *Aquatic Ecosystem Health & Management*, Vol. 12(4): 375 – 389

Conference Publication

1. Rohaida Mat Hussain & Hing Lee Siang (2015) Assemblages of Plankton In Ballast Water From Commercial Ships Berthed At Penang Port. *International Seminar on the Straits of Malacca and the South China Sea*. November 1–2. Institute of Oceanography & Environment, Universiti Malaysia Terengganu.
2. Chin Sing Lim et al. (2014) ASEAN–India Cooperation Project on Extent of Transfer of Alien Invasive Organisms in South/Southeast Asia region by Shipping: Biofouling diversity and community development on static immersion panels. *17th International Congress on Marine Corrosion and Fouling (ICMCF)*. July 6–10. Singapore.
3. Hing Lee Siang, Rohaida Mat Hussain & Kesaven Bhubalan (2014) Plankton and microbes in ballast water from container ships berthed at Port of Tanjung Pelepas. *1st International Maritime Conference*. October 21–22. Labuan International Campus, Universiti Malaysia Sabah.

4. Hing Lee Siang, Nor Asyikin Razak & Hii Yii Siang (2014) Nutrients and Hydrocarbons in Ballast Water and their concentrations in water and sediment of Port Klang, *1st International Maritime Conference*. October 21–22. Labuan International Campus, Universiti Malaysia Sabah.
5. Tan Peck Ying, Siti Aishah Abdullah & Hing Lee Siang (2013) Plankton Density and Diversity between Port water, Offshore water and Ballast Water of Vessels berthed at Kuantan Port, Malaysia. Proceeding, *12th International Annual Symposium UMTAS*. June 8–10. Kuala Terengganu.
6. Hing Lee Siang, Rohaida Mat Hussain, Nur Amira Hanafi & Kesaven Bhubalan (2013), Marine species in ballast water from commercial ships berthed at Port Klang. Proceeding, *12th International Annual Symposium UMTAS*. June 8–10. Kuala Terengganu.
7. Ali SN, Joseph J & Hing LS (2012) Heavy metal composition in green sea turtle (*Chelonia Mydas*) eggs from nesting beaches in Terengganu and Pahang, Malaysia. The *8th International Conference on Marine Technology (MARTEC)*. October 20–22. Universiti Malaysia Terengganu.
8. Hing LS, Ford TW, Morrite D, Finch P & Crane M (2010) Determination of diesel oil using solid phase extraction in combination with gas chromatography mass spectrometry. *23rd Malaysia Symposium on Analytical Sciences*. October 4–6. Kuala Terengganu.
9. Hing LS, Tan JAY & Shazili NAM (2008) Toxicity of Cadmium on Microalgae *Chlorella* sp. and its potential in Bioremediation., *The 7th International Annual Symposium on Sustainability Science and Management (UMTAS)*. Jun 7–9. Kuala Terengganu.

Other Outputs

1. Hing Lee Siang, Hii Yii Siang, Yong Jaw Chuen and Noor Azhar Mohamed Shazili (2012) A handbook for basic water quality analysis, 2nd Edition, UMT Publisher, 124p.
2. Technical Report (2014, 2015) Johor Port Biological and Environmental Baseline Study. Johor Port Authority.
3. Technical Report (2014, 2015) Port of Tanjung Pelepas Biological and Environmental Baseline Study, Johor Port Authority.
4. Technical Report (2014) Kemaman Port Biological and Environmental Baseline Study, Marine Department Malaysia.
5. Technical Report (2014) Tok Bali Port Biological and Environmental Baseline Study, Marine Department Malaysia.
6. Technical Report (2015) Tioxide, Telok Kalong Biological and Environmental Study, Tioxide (M) Sdn Bhd.

SUPERVISION

Doctor of Philosophy Degree

Thesis Title : The impact of anthropogenic geomorphological changes at River Terengganu estuary on nutrients biogeochemical processes.

Student Name : Suryani bt. Sulong

Role : Co-supervisor

Status : On-going

Thesis Title : The Role of Exogenous Antioxidants L-ascorbic Acid and Alpha-tocopherol on the depuration of polychlorinated Biphenyl 126 (PCB 126) in the Marine Mussel, *Perna Viridis*.

Student Name : Ong Pei Thing

Role : Co-supervisor

Status : Completed

Master Degree

Thesis Title : A Study of Plankton in Ballast Water and Port Water at Malaysia Ports

Student Name : Rohaida bt. Mat Husain

Role : Supervisor

Status : Completed

Thesis Title : Gene Expression Study on Cadmium Stress in *Chlorella vulgaris* (UMT-M1) by Using mRNA Differential Display Polymerase Chain Reaction (DD-PCR)

Student Name : Chew Eng How

Role : Supervisor

Status : Completed

Thesis Title : Biogeochemical process of heavy metal at Sungai Terengganu estuary.

Student Name : Muhammad Nazirul Mubin b. Abd Halim Shah

Role : Supervisor

Status : On-going

COURSE TAUGHT

- Introduction to Marine Science (MMS3004), (Undergraduate), UMT
- Meteorology (MMS3101), (Undergraduate), UMT
- Environmental Toxicology (MMS4000), (Undergraduate), UMT
- Final Year Project Coordinator (MMS4998, MMS4999), (Undergraduate), UMT
- Limnology and Oceanography (MSM2201), (Diploma), UMT
- Science Communication (SBD3802), UMT