



## ENSURING SUSTAINABILITY IN MARINE INDUSTRY



11TH INTERNATIONAL  
CONFERENCE ON MARINE TECHNOLOGY

# MARTEC 2018

13-14 August 2018, Kuala Lumpur, MALAYSIA

JOINTLY ORGANISED BY



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SECRETARIAT





## Foreword by Vice-Chancellor

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### **VICE-CHANCELLOR UNIVERSITI TEKNOLOGI MALAYSIA**

#### **Assalamualaikum and Sincere Greetings to All**

It gives me great pleasure to welcome all participants of the the 11th International Conference on Marine Technology (MARTEC 2018).

It is indeed an honour to have great minds and experts in the field of marine technology, converging to share new insights and knowledge for the benefit of all who pursue this very special discipline. Besides inspiring up-and-coming researchers, this conference will serve as a platform towards creating more collaboration opportunities for interdisciplinary research. We also hope that all research knowledge could be potentially channelled into the commercial and industrial market.

This conference is also a timely moment for participants to seize the chance of understanding new ideas and developments in this discipline, which I believe are 'creative and innovative'. This follow-up from the 10th International Conference on Marine Technology (BUET, Bangladesh, 2016) will certainly strengthen and help establish better mastery over matters pertaining to marine technology. Without doubt, participants will find this conference informative and academically relevant with all our pioneering research, currently unknown to many.

With Universiti Teknologi Malaysia (UTM) transformed into a 'Research University', tremendous effort to spur research activities has been started. MARTEC 2018 is definitely one of the research efforts. UTM also provides full support to researchers and warmly welcome keen intellectuals to join us in our quest for knowledge and to solve problems of the future.

Last but not least, congratulations to the Marine Technology Center for a job well done in organizing this event.

Best wishes,

**PROF. DATUK IR. DR. WAHID BIN OMAR**  
Vice-Chancellor



Foreword by Deputy Vice-Chancellor (Research & Innovation)

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**DEPUTY VICE-CHANCELLOR  
(RESEARCH & INNOVATION)  
UNIVERSITI TEKNOLOGI MALAYSIA**

Assalamualaikum wr. wbk and warm greetings.

On behalf of Universiti Teknologi Malaysia, I would like to welcome all local and international participants to The 11<sup>th</sup> International Conference on Marine Technology (MARTEC 2018). This event aims to bring together marine researchers to share knowledge, initiate collaboration and build networking in various fields of marine disciplines, particularly in marine hydrodynamics field.

The global challenge in marine hydrodynamics requires continuous research and development in order to enhance the understanding and approaches towards designing a more efficient and sustainable world system. Universiti Teknologi Malaysia (UTM) actively encourages our academicians and researchers to engage in impactful research-driven activities that can make a difference not just to the academic fraternity but also contributing to industries and societies as a whole. The diversity in research activities across faculties and department shows that we are continuously enhancing our knowledge and expertise areas of concern towards becoming a world class university.

MARTEC has contributed significantly to engineering research particularly in the fields of renewable energy, offshore mechanics and hydrodynamics, advanced ship technology, environment (wind and ocean), sloshing dynamics and design, coastal hydrodynamics, CFD in hydrodynamics, sea keeping and manoeuvring, ship propulsion and propeller, risk and fatigue, ship resistances and performances and new concept development. This series of conference will further enhance research efforts and innovative solution in pertinent areas through exchange of new ideas and sharing of insights for continuous improvement in the field.

I am convinced that the discussions, deliberations and knowledge sharing from the conference will be a meaningful experience for all participants. Lastly, I would like to express my sincere appreciation to the organizing committee and those who have been involved directly or indirectly in making this conference a success. I wish you all a productive and rewarding conference.

**Prof. Datuk Dr. Ahmad Fauzi Bin Ismail**  
Deputy Vice-Chancellor (Research & Innovation)  
Universiti Teknologi Malaysia



## Foreword by Chairman

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### **CHAIRMAN OF MARTEC 2018** **11<sup>TH</sup> International Conference on Marine Technology**

Assalamualaikum wr. wbk and warm greetings.

I am grateful, with the grace of Allah S.W.T., I have this opportunity to say a few words in this workshop's programme booklet. On behalf of the local organizing committee, I would like to thank the international organizing committee, our sponsors, fellow participants and to just about anyone who had a part in making this workshop a success.

The Maritime industry of any country plays an important role in its economic stability and success. Whilst Malaysia aspires to be a developed country by the year 2020, one of the criteria for a developed nation is its capability as a contributor to the development of the global maritime industry. The maritime industry of this country can be regarded as having a high potential for success and one of the major contributors to the country's development. The government has taken various measures to support this industry and further expand it. It is undeniable that of late, the maritime industry has been playing a major role in stimulating the Malaysia's economic growth. Thus, it is crucial that we not only equipped ourselves with knowledge and be technologically competent in order to achieve the developed nation status but also to extend and enhance our collaborations with researchers in other countries especially in the Asia-Pacific region.

As part of our effort to participate and contribute in the global arena, the Marine Technology Center of Universiti Teknologi Malaysia is most grateful and honored to host The 11<sup>th</sup> International Conference on Marine Technology (MARTEC 2018). The workshop which was initiated by Indonesia in 1998 and now held biennially has the main objective to promote technical and cultural exchange among marine researchers in the Asia region.

Finally, I hope that this conference will be a success and will benefit all parties. The maritime industry is by nature global, complex and multidisciplinary. To achieve success, we definitely need to collaborate at both national and international levels and also able to work with researchers from different disciplines. I am happy to note here that MARTEC 2018 is well attended by participants from different countries especially in the Asia region and is also well supported by sponsors from the marine industries. Thank you!

**Prof. Dr. Adi Maimun Bin Abdul Malik**  
Chairman,  
The 11<sup>th</sup> International Conference on Marine Technology



## Keynote Speakers

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**Keynote Lecture 1: (Hydrodynamics of Modular Floating Structures for Coastal Waters and Beyond)**

Allan R Magee

Professor, Centre for Offshore Research & Engineering

National University of Singapore

**Keynote Lecture 2: (The Role of a Professional Society in Promoting Success in the Maritime Industry)**

Trevor Blakeley

Chief Executive

The Royal Institution of Naval Architect



## Tentative Program

| <b>Monday, 13<sup>th</sup> August 2018</b> |  |  |                                 |
|--|--|--|---------------------------------|
| <b>TIME</b>                                | <b>ACTIVITIES</b>  |  |                                 |
| 8.00 am                                    | Registration   |  |                                 |
| 8.30 am                                    | Arrival of VIP   |  |                                 |
| 8.40 am                                    | Arrival of Dato' Hj. Baharin Bin Dato Abdul Hamid, Director General of Marine Department Malaysia                        |  |                                 |
| 8.45 am                                    | Negaraku   |  |                                 |
| 8.50 am                                    | Welcome Remark by Master of Ceremony & Recital of Doa  |  |                                 |
| 8.55 am                                    | Welcome Remark by Chairman of MARTEC 2018  |  |                                 |
| 9.05 am                                    | Opening Speech and Ceremony by the Director General of Marine Department Malaysia  |  |                                 |
| 9.30 am                                    | Keynote Lecture 1: Prof. Dr. Allan R. Magee (Hydrodynamics of Modular Floating Structures for Coastal Waters and Beyond) |  |                                 |
| 10.00 am                                   | <b>TEA BREAK (Ilmuan 3)</b>  |  |                                 |
|  | <b>3 PARALLEL SESSIONS</b>   |  |                                 |
|  | <b>Seminar Room</b>  | <b>Room A</b>  | <b>Room B</b>                   |
| 10.30 am                                   | Session 1/1<br>(Offshore Engineering)  | Session 1/2:<br>(Ship Safety and Environmental Protection) | Session 1/3<br>(Ship Design)    |
| 12.30 pm                                   | <b>LUNCH BREAK (Ilmuan 3)</b>  |  |                                 |
|  | <b>3 PARALLEL SESSIONS</b>   |  |                                 |
|  | <b>Seminar Room</b>  | <b>Room A</b>  | <b>Room B</b>                   |
| 2.00 pm                                    | Session 1/4<br>(Ocean Renewable Energy)  | Session 1/5<br>(Ship Safety and Environmental Protection)  | Session 1/6<br>(Ship Structure) |
| 4.00 pm                                    | <b>TEA BREAK (Ilmuan 3)</b>  |  |                                 |
| 4.30 pm                                    | <b>END</b>   |  |                                 |
| 8.30 pm - 10.30 pm                         | <b>CONFERENCE ANNUAL DINNER (Level 6, The Regency Scholar's Hotel)</b>   |  |                                 |



| Tuesday, 14 <sup>th</sup> August 2018 |   |   |   |
|---------------------------------------|---|---|---|
| TIME                                  | ACTIVITIES  |   |   |
| 8.00 am                               | Arrival of the Participants and Keynote Speaker   |   |   |
| 8.30 am                               | Keynote Lecture 2: Mr. Trevor Blakeley (The Role of a Professional Society in Promoting Success in the Maritime Industry) |   |   |
|                                       | <b>3 PARALLEL SESSIONS</b>  |   |   |
|                                       | <b>Seminar Room</b>   | <b>Room A</b>   | <b>Room B</b>                                       |
| 9.00 am                               | Session 2/1<br>(Reliability & Safety)   | Session 2/2<br>(Port, Maritime<br>Regulation and Policies)        | Session 2/3<br>(Ship Construction and<br>Operation) |
| 10.20 am                              | <b>TEA BREAK (Ilmuan 3)</b>   |   |   |
|                                       | <b>Seminar Room</b>   | <b>Room A</b>   |   |
| 10.40 am                              | Session 2/4<br>(Slamming, Sloshing, Maneuvering)  | Session 2/5<br>(Computational Fluid Dynamics in<br>Hydrodynamics) |   |
| 12.20 am                              | <b>LUNCH BREAK (Ilmuan 3)</b>   |   |   |
|                                       | <b>Seminar Room</b>   | <b>Room A</b>   |   |
| 2.00 pm                               | Session 2/6<br>(Ship Propulsion and Propeller)  | Session 2/7<br>(Ship Resistance)                                  |   |
| 3.45 pm                               | <b>TEA BREAK (Ilmuan 3)</b>   |   |   |
| 4.00 pm                               | Closing Ceremony and Award Presentation ( <b>Seminar Room</b> )   |   |   |
| 4.30 pm                               | <b>END</b>  |   |   |



## Day 1: Session 1/1 (Seminar Room) – Offshore Engineering

| Chairman | Prof. Dr. Adi Maimun   |   |
|----------|--|---|
| Time     | Paper Title  | Authors   |
| 10.30 am | Study on Polyester Mooring Material for Deep Water Offshore Structure  | <i>Nur Aireen Amran, J.Koto, C.L. Siow</i>  |
| 10.50 am | Numerical Simulation on the Effect of Mooring Arrangement to the Cylindrical FPSO's Station Keeping Behavior | <i>Siow Chee Loon, Muhammad Syahriel Afif Bin Rasdi, J.Koto, Adibah Fatimah Mohd Yusof, Kang Hooi Siang, Lee Kee Quen</i> |
| 11.10 am | Mooring Line Damping Estimation on WEC – A Review  | <i>Adibah Fatimah Mohd Yusof, J.Koto, C.L. Siow</i>   |
| 11.30 am | Experimental Study on Vortex Induced Vibration of Short Rigid Cylinder with Different Spring                 | <i>Shafiza Binti Ramzi, Lee Kee Quen, Aminudin Bin Abu, Kang Hooi Siang, Nor'Azizi Bin Othman</i>                         |
| 11.50 am | Vortex Induced Vibration on Cold Water Pipe of OTEC  | <i>Muhammad Zaki Prawira, J.Koto</i>  |
| 12.10 pm | Present Condition of Existing Single Point Mooring in Indonesia Waterways in View of BKI                     | <i>Muhammad Irfan, Defi Rizki Mauliani, and Muhdar Tasrief</i>  |

## Day 1: Session 1/2 (Room A) - Ship Safety and Environmental Protection

| Chairman | Prof. Dr. Omar Bin Yaakob  |  |
|----------|--|--|
| Time     | Paper Title  | Authors  |
| 10.30 am | A Study on Ship Scrapping Regarding Safety, Health, Environment & Economy of Bangladesh        | <i>Khabirul Haque Chowdhury, Nafiz Imtiaz, Sujon Hawlader</i>                      |
| 10.50 am | An Assessment of Marine Pollution by The Operation of Inland Vessels                           | <i>N.M.Golam Zakaria, Sumon Mondol Opu and Badhon Das</i>                          |
| 11.10 am | Environmental Pollution in Bangladesh By Inland Passenger Vessel Operation                     | <i>Kaasar Rashid, Dr N.M. Golam Zakaria, Imran Khaled</i>                          |
| 11.30 am | Study on The Hit Probability of Freely Falling Cylindrical Objects Onto The Pipeline At Seabed | <i>Xiaochuan Yu, Adelina Steven, Linxiang Li, Zhixin Xiong and Hooi-Siang Kang</i> |





|          |   |  |
|----------|---|--|
| 11.50 am | Scilab-Based Reliability Analysis Of 5-Storey Offshore Jacket Structure Using Monte Carlo Finite Element Method | <i>Agro Wisudawan and D. Mohammad Rosyid</i>           |
| 12.10 pm | Environmental Impact For Navigation On Inland Waterways, Malacca River Case Study                               | <i>A.S.A.Kader &amp; A.N.D.Bachok, W.N.W. Shamsuri</i> |

### Day 1: Session 1/3 (Room B) - Ship Design

|                 |   |  |
|-----------------|---|--|
| <b>Chairman</b> | Prof. Dr. Wan Mohd Norsani Bin Wan Nik  |  |
| <b>Time</b>     | <b>Paper Title</b>  | <b>Authors</b>   |
| 10.30 am        | Experimental and Numerical Studies of Hard-Chine Crew-Boat Resistance with Variation of Stern Foil Position in The Longitudinal Direction | <i>Soengeng Riyadi and Ketut Suastika</i>                                |
| 10.50 am        | Dissemblance of Ship Scantlings from Design in Bangladesh: Causes & Effects   | <i>S M Ikhtiar Mahmud, Nafisha Nubayaatt Haq and Md. Ramzan Hossain</i>  |
| 11.10 am        | Development of Suitable Design for Fishery Research Vessel for The Contribution to The Blue Economy of Bangladesh                         | <i>Nafisha Nubayaatt Haq, M Muzibur Rahman and M Munir Hassan</i>        |
| 11.30 am        | Systems Engineering for Ship Concept Design   | <i>Jauhari T. Khairuddin, A. Maimun and Siow C. L., Anuar Abu Bakar</i>  |
| 11.50 am        | Adopting Probabilistic Approach in Preliminary Ship and Offshore Design   | <i>Muhammad A. Azizan, E. Oterkus, Mohd F. Abdulhamid and A. Incecik</i> |
| 12.10 pm        | Preliminary Design An Offshore Wind System For Malaysia   | <i>Oscar Peyre, Farah Ellyza Hashim, Omar Yaakob</i>                     |

### Day 1: Session 1/4 (Seminar Room) - Ocean Renewable Energy

|                 |  |  |
|-----------------|--|--|
| <b>Chairman</b> | Prof. Dr. Sunaryo  |  |
| <b>Time</b>     | <b>Paper Title</b>   | <b>Authors</b>   |
| 2.00 pm         | Hybrid Renewable Energy Device – Low Speed Current Turbine and Solar Cell                                | <i>Atef Salem M. Soufjaljen, Adi Maimun and Muzakkir</i> |
| 2.20 pm         | A Preliminary Review of The Potential Area to Deploy Wave Energy Converter in Kuala Terengganu Shoreline | <i>S.M Mahmud, W.B Wan Nik, A. Abu Bakar</i>             |
| 2.40 pm         | Effect of Tip Groove on Biplane Wells Turbine  | <i>Tapas K. Das, Abdus Samad</i>                         |



|         |  |   |
|---------|--|---|
| 3.00 pm | Design, Development and Experimentation of Compliant Offshore Mechanical Wave Energy Convertor | <i>Srinivasan Chandrasekaran, VVS Sricharan, Shimon Joseph, Nagavinothini.R</i> |
| 3.20 pm | Mapping of Wave and Current Energy Resources Around St. Martin Island of Bangladesh            | <i>Mohua Das, Tariqul Islam Shazeeb and Dr. M Rafiqul Islam</i>                 |
| 3.40 pm | Modelling On Numerical Wave Tank For Application Of Owc Simulation                             | <i>Ahmad Mustaqim Abdul Rahim, Omar Yaakob</i>                                  |

### Day 1: Session1/5 (Room A) - Ship Safety and Environmental Protection

|                 |  |  |
|-----------------|--|--|
| <b>Chairman</b> | Prof. Dr. A.S.A.Kader  |  |
| <b>Time</b>     | <b>Paper Title</b>   | <b>Authors</b>   |
| 2.00 pm         | Port Marine Safety Assessment Case Study on The Indonesian Ports   | <i>Sunaryo, and Yusuf Muhammad Ramdhan</i>                                       |
| 2.20 pm         | Energy Efficiency Design Index for Inland Vessels in Bangladesh and its Present Status   | <i>N.M.Golam Zakaria, Sohanur Rahman</i>   |
| 2.40 pm         | An Investigation of Collision Accidents in the Inland Waterways of Bangladesh  | <i>Md. Imran Uddin and Zobair Ibn Awal</i>                                       |
| 3.00 pm         | Determination of Capacity of Emergency Source of Electrical Power (ESEP) for Restricted Service Ships, Study case on ships operated in Indonesian waters | <i>Angjuang Adi Panji Pratama, Muhdar Tasrief and Rizky Prasetya Ade Nugraha</i> |
| 3.20 pm         | Study of Fuel Efficiency on Tug bosts with use of flowmeter Web based monitoring AD ContriK System P.T.X   | <i>Danny Faturachman</i>   |
| 3.40 pm         | Study On Signal Blocking System To Prevent Over Loaded Passenger Vessel Engine From Starting To Ensure Maximum Safety                                    | <i>Hironmoy Ahmad and Nusrat Jahan</i>   |

### Day 1: Session 1/6 (Room B) - Ship Structure

|                 |   |   |
|-----------------|---|---|
| <b>Chairman</b> | Prof. Dr. Omar Bin Yaakob   |   |
| <b>Time</b>     | <b>Paper Title</b>  | <b>Authors</b>  |
| 2.00 pm         | Comparison Study of Braced Monopod Dan Tripod Jacket Offshore Platforms | <i>Ricky L. Tawekal, Julio De Velas, Jessica R. Tawekal, Paramashanti</i> |
| 2.20 pm         | The Effect of SPMT on The Offshore Structure Whilst Loading The Barge   | <i>Muhamad Ridho Baihaque, J. Koto</i>                                    |



|         |   |   |
|---------|---|---|
| 2.40 pm | Comparison of Various Spectral Models For 100-Year Extreme Values of Offshore Structural Response   | <i>S.Z.A. Syed Ahmad, M.K. Abu Husain, N.I. Mohd Zaki M.H. Mohd and G. Najafian</i> |
| 3.00 pm | The Design and Structural Analysis of a Non-Sinkable Surveillance Vessel for The Forest Department of Bangladesh                          | <i>S M Ikhtiar Mahmud and Nafisha Nubayaatt Haq</i>                                 |
| 3.20 pm | Effect of Hot and Cold Rolling on Electro-Mechanical Properties of Commercial High-Conductive Metallic Materials                          | <i>M Muzibur Rahman, M Abu Sufian, Rehgir Al Shahid, M S Kaiser, S Reaz Ahmed</i>   |
| 3.40 pm | Application Of Probability And Statistics In Constructing Likelihood Of Failure Bands For Rbi Approach In Structural Integrity Management | <i>Mohd F Abdulhamid And Azhari Haron</i>   |

## Day 2: Session 2/1 (Seminar Room) – Reliability & Safety

|                 |   |  |
|-----------------|---|--|
| <b>Chairman</b> | Assoc. Prof . Dr. Mohd Zamani Ahmad   |  |
| <b>Time</b>     | <b>Paper Title</b>  | <b>Authors</b>   |
| 9.00 am         | Fatigue Life Assessment of Defected Welded Joints in Marine Grade Steel Materials | <i>S. M. Ikhtiar Mahmud, Kazi Rafi Rahaman, Md Shehjad Rifat and Umme Saima</i>                                |
| 9.20 am         | Assessment of Collision & Grounding Risk at Chittagong Port, Bangladesh           | <i>Mohammad Ehsan Khaled, Yasumi Kawamura, Arnob Banik, Mohammad Sayem Bin Abdullah and Mohammad Riad Khan</i> |
| 9.40 am         | Reliability Information to Support Decision Making for Ship Design                | <i>Faiz Mohd Turan, Kartina Johan and Daniel Osezua Aikhuele</i>   |
| 10.00 am        | Sustainability Competency Assessment in Marine Industry                           | <i>N. Soliha Sahimi, Faiz Turan and Kartina Johan</i>  |

## Day 2: Session 2/2 (Room A) - Port, Maritime Regulation and Policies

|                 |   |  |
|-----------------|---|--|
| <b>Chairman</b> | Prof. Dr. Ricky Lukman Tawekal  |  |
| <b>Time</b>     | <b>Paper Title</b>  | <b>Authors</b>   |
| 9.00 am         | A Warehouse Inventory Optimization Model for Deteriorating Items of a Supply Chain with Ramp Type Nonlinear Demand Function | <i>Dr. Mohammed Forhad Uddin, Akbar Rafique and Manik Mondal</i> |



|          |  |  |
|----------|--|--|
| 9.20 am  | Industrial Sustainability Policy and Standards-Related on Management Discipline of SMEs Industry in Malaysia: A Conceptual Framework                             | <i>Nur Qurratul Ain Adanan, Faiz Mohd Turan, Kartina Johan and Wan Nur Syahirah Wan Lanang</i>   |
| 9.40 am  | Computer Simulation and Modeling in Engineering for Open Learning Environment – A Case Study on Application of Rand Model Designer For Ship Maneuvering Analysis | <i>Md Salim Kamil, Kirill Velodosovich Rozhdestvensky, Vladimir Alexandrovich Ryzhov, Senichenkov Yuri Borisovich, Igor Novopashenny</i>                         |
| 10.00 am | Strategic Plan 2025 For Port of Tanjung Pelepas In Conjunction with The Development of Iskandar Malaysia   | <i>Muhammad Firdaus Md Amin, Mogheshwar Gokul Rajasekaran, Mohamad Firzuan Raffy, Muhammad Ridho Baihaque, Muhammad Zaki Prawira, Salaamin Amineen Nur Zakri</i> |

## Day 2: Session 2/3 (Room B) - Ship Construction and Operation

|                 |   |   |
|-----------------|---|---|
| <b>Chairman</b> | Prof. Dr. Mohammad Rafiqul Islam  |   |
| <b>Time</b>     | <b>Paper Title</b>  | <b>Authors</b>  |
| 9.00 am         | The Changing of Ship Parameters During Operation  | <i>Wolter R Hetharia, Andre HAGE And Philippe RIGO</i>  |
| 9.20 am         | Material Flow Analysis (MFA) Is A Better Tool to Calculating Reusable Material for Ship Recycling | <i>Khandakar Akhter Hossain</i>                         |
| 9.40 am         | Proposed Sustainable Ship Recycling Process for South East Asian Recycling Yards                  | <i>Khandakar Akhter Hossain and N. M. Golam Zakaria</i> |
| 10.00 am        | Design of Software for Calculation and Analysis Engine Propeller Matching                         | <i>Habibi and Santoso Pudji</i>                         |

## Day 2: Session 2/4 (Seminar Room) - Slamming, Sloshing, Maneuvering

|                 |  |  |
|-----------------|--|--|
| <b>Chairman</b> | Prof. Dr. Md. Mashud Karim               |  |
| <b>Time</b>     | <b>Paper Title</b>                       | <b>Authors</b>   |
| 10.40 am        | Ship Maneuvering and Intelligent Control | <i>Ahmed Yaseen Adnan, Hannan Mohammed Abdul and Mustaffa Kamal Iwan</i> |



|          |  |   |
|----------|--|---|
| 11.00 am | Sloshing Analysis of Membrane Tank for Malaysia LNG Carrier                  | <i>Mazlan Muslim, Md Salim Kamil and Asmalina Mohamed Saat</i>  |
| 11.20 am | Sloshing Impact Pressure in Prismatic Membrane Tank                          | <i>Ummul Ghafir Md Arif, Collin Howe-Hing Tang, Gavin Nai-Yeen Lai, Hooi-Siang Kang, Arifah Ali, Chee-Loon Siow, Kee-Quen Lee</i> |
| 11.40 am | Four Quadrant Wake and Thrust Deduction Fractions for Crash Stop Maneuvering | <i>Sunarsih, Mohd Zamani Ahmad, Adi Maimun Abdul Malik, Nasrudin Ismail</i>   |

## Day 2: Session 2/5 (Room A) - Computational Fluid Dynamics in Hydrodynamics

| Chairman | Assoc. Prof. Ir. Dr. Md Salim Bin Kamil   |   |
|----------|---|---|
| Time     | Paper Title   | Authors   |
| 10.40 am | Assessment of Drag Penalty Resulting from The Roughness of Freshly Cleaned and Painted Ship-Hull Using Computational Fluid Dynamics | <i>Muhammad Luqman Hakim, Bagus Nugroho, Rey Cheng Chin, Teguh Putranto, I Ketut Suastika and I Ketut Aria Pria Utama</i> |
| 11.00 am | Numerical Prediction of Free-Surface Wave Around Surface Piercing Marine Rudder   | <i>Md. Mashud Karim, Md. Habibur Rahman and Mohammad Salman Yasin</i>   |
| 11.20 am | Validation Study of U-Oscillating Water Column Device Using CFD Simulation  | <i>Muhammad Syazwan Bazli, Omar Yaakob and Kang Hooi Siang</i>  |
| 11.40 am | CFD Analysis on Unsteady Yaw Motion of A Towed Ship In Calm Water   | <i>Nur Adlina Aldin, Ahmad Fitriadhy, Nurul Aqilah Mansor, and Adi Maimun</i>   |
| 12.00 pm | CFD Analysis on Course Stability of a Towed Ship  | <i>N. Aqilah Mansor, A.Fitriadhy, and N. Adlina Aldin, Adi Maimun</i>   |



## Day 2: Session 2/6 (Seminar Room) - Ship Propulsion and Propeller

| Chairman | Assoc. Prof . Dr. A.Fitriadhy   |   |
|----------|---|---|
| Time     | Paper Title   | Authors   |
| 2.00 pm  | Wake Turbulence and Dimensional Length Changes Influence on Conventional Ship Based on Resistance Criteria  | <i>Bagiyo Suwasono, Ali Munazid, G.A.P. Poundra and Sutiyo</i>                  |
| 2.20 pm  | An Investigation Into The Numerical Uncertainty Of Resistance Model Tanker 17.500 DWT                       | <i>D Purnamasari , I K A P Utama, I K Suastika</i>                              |
| 2.40 pm  | Automation of Savitsky's Method for Power Calculation of High Speed Vessel and Generating Empirical Formula | <i>Md Towhidur Rahman, Nasim Zaman Piyas, Md Sadiqul Baree, Shahnewaz Ahmed</i> |
| 3.00 pm  | Development of A Plug-In in Grasshopper for Designing Ship Propeller in Rhinoceros                          | <i>Abul Kalam Faruk, and Dr. M Rafiqul Islam</i>                                |
| 3.20 pm  | Comparative Analysis of Diversity Hullform Influence on Resistance Assessment of a Pentamaran               | <i>Yanuar, W Sulistyawati, and AS Pamitran</i>                                  |

## Day 2: Session 2/7 (Room A) - Ship Resistance

| Chairman | Prof. Dr. I Ketut Aria Pria Utama  |  |
|----------|--|--|
| Time     | Paper Title  | Authors  |
| 2.00 pm  | Prediction of The Propeller Performance Using Computational Fluid Dynamics (CFD) Approach              | <i>N. AmiraAdam, A. Fitriadhy, CJ Quah, Tri Haryanto, J.Koto</i>                 |
| 2.20 pm  | The Effect of Drag Resistance from Anti-Fouling Self-Adhesive Film to Ship Performance                 | <i>Siow Chee Loon, Khor Wei Han, Adi Maimun Bin Abdul Malik, Kang Hooi Siang</i> |
| 2.40 pm  | Dynamic Analysis of Offshore Triceratops Under Forces Due to Ice Crushing in Ultra-Deep Waters         | <i>Srinivasan Chandrasekaran, Nagavinothini R</i>                                |
| 3.00 pm  | Drag Analysis of Three-Rudder Shaped like Bodies   | <i>M.N.Azzeri, O.E. Hanis, Adi Maimun, F.A. Adnan, P.A. Wilson, M.Z.Md Zain</i>  |
| 3.20 pm  | Numerical Prediction Of Fin Stabilizer Effect On The Resistance Of Semi-Swath At Different Water Depth | <i>Arifah Ali, Adi Maimun, Yasser M. Ahmed</i>                                   |



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# BINTULU PORT

SARAWAK, MALAYSIA

Bintulu Port Authority was inaugurated on 15th August 1981 under the Bintulu Port Authority Act 1981 with responsibilities covering the development, administration, marketing and provision of adequate and efficient port services. Bintulu Port Authority is a federal Statutory Body under the Ministry of Transport Malaysia.

The strategic location along the route between the Far East and Europe is an advantage to Bintulu Port as an international port. It is also the main gateway for export of Liquefied Natural Gas (LNG) from Malaysia. Besides, Bintulu Port also offers modern and state-of-the-art facilities and equipment for the handling of containers, liquid and dry bulk cargo and general cargo.

As from 1st January 1993, the operations of Bintulu Port have been privatised under the Ports (Privatisation) Act, 1990 in line with the national privatisation policy. With the said privatisation, Bintulu Port Authority has licensed a port operation company, Bintulu Port Sdn. Bhd. (BPSB) to carry out port operation services and related functions at Bintulu Port. Bintulu Port Sdn. Bhd. was incorporated on 23th December 1992 and began its operations on 1st January 1993.



## BINTULU PORT AUTHORITY

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**Johor**

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## MALAYSIA'S SOUTHERN GATEWAYS

Malaysia's Southern Gateways comprising of Johor Port Authority (JPA), Johor Port Berhad and Port of Tanjung Pelepas provides a comprehensive range of port services to meet the individual needs of its customers. Located alongside the world's busiest shipping channel which is the Straits of Malacca, our Gateway is an ideal location connecting the East & West shipping routes.

As the regulatory body for Ports in Johor, JPA is responsible in regulating and facilitating Johor Port and the Port of Tanjung Pelepas to be the preferred port of choice for conducting business through its comprehensive logistics supply chain.

Johor Port, located at the Pasir Gudang area, is the original Southern Gateway Multi-Purpose Port in Malaysia and currently operates 3 terminals with 24 berths over a total berthing length of 4.9 km. As the largest Palm Oil terminal in the world and the 1st port in Malaysia to be accorded with Free Zone status, the services and facilities within Johor Port include the Container Terminal, Bulk and Break bulk Terminal, Liquid Terminal and Warehousing Facilities.

Port of Tanjung Pelepas is the busiest Container Terminal in Johor and is ranked Top 20 among the world's best Container ports according to Lloyd's list. With 14 linear quay berths of Container Terminal totalling 5.04 km in length, the Port of Tanjung Pelepas has positioned themselves as the Hub for Johor's Container cargo business.

**JOHOR PORT AUTHORITY**  
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