



Scientific Session

6A1-T2.1 Design & Performance 1

Date	6 (Wed.) November 2024
Time	16:00~17:40
Place	Mayflower 1
Session Chair	Prof. Changli Yu (Harbin Institute of Technology)

6A1-T2.1-1 Numerical Modelling Techniques of a Rotating Circular Cylinder near a Plane Wall
16:00~16:25 *Sang-Eui Lee (Changwon National University)*

6A1-T2.1-2 A Method for the Automatic Generation of Hull Form Surfaces Based on MLP (Multi-Layer Perceptron) Considering Design Requirements
16:25~16:50 *Jin-Hyeok Kim, Myung-Il Roh* and In-Chang Yeo (Seoul National University)*

6A1-T2.1-3 Optimal Hull Form Design using Machine Learning Resistance Estimation Model
16:50~17:15 *Eunyoung Son, Min-Jae Oh* and Dayeon Jeong (University of Ulsan), Myung-Soo Kim and Yoo-Chul Kim (KRISO)*

6A1-T2.1-4 Automated Hull Form Generation for Stability Analysis
17:15~17:40 *Dayeon Jeong, Min-Jae Oh* and Naeon Kim (University of Ulsan), Jinyoung Park and Jeong-Youl Lee (Korean Register)*

6B1-T6.1 Digitalisation 1

Date	6 (Wed.) November 2024
Time	16:00~17:40
Place	Mayflower 2
Session Chair	Prof. Kyung Ho Lee (Inha University)

6B1-T6.1-1 Samsung Heavy Industries's advancing unmanned system (Robot and SRCS)
16:00~16:25 *Kyung-Ryeong Pak*, Kyung-Won Bae, Bum-Hyun Lim, Hee-Jung Kim, and Young-Su Choi (Samsung Heavy Industries)*

6B1-T6.1-2 Streamlining Hull Thickness Measurement Reporting using Unmanned Aerial Vehicles
16:25~16:50 *Georgios Koutsoumpas*, Chris Leontopoulos and Spyros Hirdaris (ABS), Stefano Zampieri (Flyability)*

6B1-T6.1-3 Samsung Heavy Industries' Advancing Unmanned System (CBM and Robot)
16:50~17:15 *Kyung-Won Bae, Kyung-Ryeong Pak*, Bum-Hyun Lim, and Chang-Yeol Jee (Samsung Heavy Industries)*

6B1-T6.1-4 Maintenance Work Packaging (MWP) Based AR Remote Maintenance in Maritime Network
17:15~17:40 *Yongsu Kim, Kyungho Lee*, Youngwook Nam, and Changhee Kim (Inha University)*

6C1-T1.1 Alternative Fuel 1

Date	6 (Wed.) November 2024
Time	16:00~17:40
Place	Mayflower 3
Session Chair	Dr. Hayoung Jang (University of Strathclyde)

6C1-T1.1-1

16:00~16:25

Establishing Safety Zones for Ammonia Bunkering Operations: A Quantitative Risk Assessment

*Insik Hwang**, Peilin Zhou, Byongug Jeong, Haibin Wang, Mujeeb Mughadar Palliparambil, and Hayoung Jang (University of Strathclyde)

6C1-T1.1-2

16:25~16:50

Certification of Alternative Fuel Designs

*Louise Wright**, Davies Paul and Kyung-Tae Moon (Lloyd's Register)

Regulatory Gap Analysis For Risk Assessment of Ammonia-Fuelled Ships

Hayoung Jang (Europe-Korea Marine and Ocean Engineers Association), *M.P. Mujeeb-Ahmed**, *Haibin Wang* and *Insik Hwang* (University of Strathclyde), *Chybyung Park* and *Byongug Jeong* (Europe-Korea Marine and Ocean Engineers Association, University of Strathclyde), *Peilin Zhou* (Europe-Korea Marine and Ocean Engineers Association, Harbin Institute of Technology), *Rima Mickeviciene* (Klaipeda University)

6C1-T1.1-3

16:50~17:15

Comparative Quantitative Risk Assessment (QRA) of LNG, Methanol, and Ammonia Fuelled Container Ship

*Kyung-Tae Moon**, Davies Paul and Louise Wright (Lloyd's Register)

6C1-T1.1-4

17:15~17:40

6D1-T2.2 Design & Performance 2

Date	6 (Wed.) November 2024
Time	16:00~17:40
Place	Braford
Session Chair	Prof. Jong-Chun Park (Pusan National University)

6D1-T2.2-1

16:00~16:25

Sloshing Flow Characteristics and Optimal Tank Design Guidance using Single Impact Wave

*Seongmin Woo**(Samsung Heavy Industries, KAIST), *Rae Hyoung Yuck* and *Yong Chul Lee* (Samsung Heavy Industries), *Daegyoun Kim* (KAIST)

6D1-T2.2-2

16:25~16:50

Sloshing-Induced BOG/BOR in Cryogenic Storage Tanks with Integrated Multiphase-Thermal Simulations Incorporating Evaporation Dynamics

Se-Min Jeong (Chosun University), *Gyu-Mok Jeon* and *Jong-Chun Park** (Pusan National University), *Sunho Park* (Korea Maritime and Ocean University)

6D1-T2.2-3

16:50~17:15

Multiphase-Thermal Simulation for Estimating Boil-Off Gas (BOG)/Boil-Off Rate (BOR) Based on Filling Level of C-Type LNG Fuel Tank

Yong-Dae Jung and *Jong-Chun Park* (Pusan National University)

6D1-T2.2-4

17:15~17:40

Multiphase-Thermal Flow Simulation of Initial Cool-Down Inside a Membrane-Type LNG Storage Tank Using LNG Spray Injection with Vaporization

Hee-Su Kim, *Gyu-Mok Jeon* and *Jong-Chun Park** (Pusan National University)

6E1-T7 Marine Resources & Energy Technology

Date	6 (Wed.) November 2024
Time	16:00~16:50
Place	Standish
Session Chair	Dr. Ali Hilo (University of A Coruna)

6E1-T7-1

16:00~16:25

Technical Feasibility of Liquid Hydrogen Transfer and Vaporization in Import Terminals

Jung-wook Kim, Min-Soo Choi, and Dae-Jun Chang (KAIST)*

6E1-T7-2

16:25~16:50

A Research on a 3.5kW Class Inverter Applying Multi-Level Switching Technology to Improve Power Quality

Dong-Wook Kim (Research Institute of Medium and Small Shipbuilding), Duck-Shick Shin (Korea Electronics Technology Institute)*

6F1-T4.1 Marine Material & Equipment 1

Date	6 (Wed.) November 2024
Time	16:00~17:40
Place	Winslow
Session Chair	Dr. Spyros Hirdaris (ABS)

6F1-T4.1-1

16:00~16:25

A New AMR Sensor Calibration Method for Measuring Residual Stresses

Georgia Stamou, Spyros Angelopoulos, Aphrodite Ktena, and Evangelos Hristoforou (National Technical University of Athens), Vassilis Zouzoulas, Chris Leontopoulos and Spyros Hirdaris (ABS)*

6F1-T4.1-2

16:25~16:50

Comparative Study on Fatigue Performance of Hybrid Laser Arc Weldment for High Manganese Steel

Ji-Hoon Kim and Myung-Hyun Kim (Pusan National University), Won-Chan Jeong (Hyundai Heavy Industries), In-Sung Choi and Kwang-Hyeon Lee (Korea Institute of Machinery and Materials)*

6F1-T4.1-3

16:50~17:15

Effect of Crack Tip Constraint in the SENT and SENB Test Specimens on the Fracture Behavior of Cryogenic Steel at HAZ-notched Weld Joint

Sung-Kyu Cho, Ho-Sang Jang and Hyung-Goun Joo (Hyundai-Steel Company), Joon-Mo Choung (Inha University)*

6F1-T4.1-4

17:15~17:40

Study on Applicability of Cryogenic Steel Welding for Cryogenic Liquefied Cargo Containment Tanks

Ho-Sang Jang, Sung-Kyu Cho and Hyung-Goun Joo (Hyundai-Steel Company)*

7A1-T2.3 Design & Performance 3

Date	7 (Thu.) November 2024
Time	13:40~15:20
Place	Mayflower 1
Session Chair	Prof. Inwon Lee (Pusan National University)

7A1-T2.3-1 A Study on the Heat Transfer Characteristics of Double Pipe Heat Exchanger
 13:40~14:05 *Sung-Woong Choi (Gyeongsang National University)*

7A1-T2.3-2 Application of Physics-Informed Neural Network to Reconstruct Velocity and Pressure of Wave-In-Deck Loading from Particle Image Velocimetry Data
 14:05~14:30 *Tien Trung Duong, Hyun-Jung Park, Seongyun Shin, Seong Hyun Park, and Kwang Hyo Jung* (Pusan National University)*

7A1-T2.3-3 Systematic Hydrodynamic Studies of Domestic Vessels for Cleaner and Quieter Operation
 14:30~14:55 *Mohammed Islam*, Trevor Harris, Fatima Jahra, and Ayhan Akintruk (National Research Council of Canada)*

7A1-T2.3-4 Hull Form Transform and Optimization based on Convolutional Autoencoder
 14:55~15:20 *Jeongbeom Seo and Inwon Lee* (Pusan National University)*

7B1-T6.2 Digitalisation 2

Date	7 (Thu.) November 2024
Time	13:40~14:55
Place	Mayflower 2
Session Chair	Dr. Spyros Hirdaris (ABS)

7B1-T6.2-1 Research on AIS Data-based Representative Navigation Route Decision Technique to Establish Wave Scatter Data for Each Route
 13:40~14:05 *Min-Su Kim* and Sang-Yeob Kim (Korean Register)*

7B1-T6.2-2 An Ai Model for the Prediction of a Kamsarmax Bulk Carrier Fuel Consumption
 14:05~14:30 *Mingyang Zhang (Espoo), Pentti Kujala (Estonian Maritime Academy), Nikolaos Tsoulakos (Laskaridis Shipping Co. Ltd.), Spyros Hirdaris* (ABS)*

7B1-T6.2-3 Ship Engine Failure Detection and Predictive Maintenance through Univariate and Multivariate Time Series Prediction
 14:30~14:55 *Youngseo Park, Juhyang Lee and Sewon Kim* (Sejong University)*

7C1-T1.2 Alternative Fuel 2

Date	7 (Thu.) November 2024
Time	13:40~15:20
Place	Mayflower 3
Session Chair	Dr. Eddies Blanco Davis (Liverpool John Moores)

7C1-T1.2-1

13:40~14:05

Safety Evaluation on Ammonia-Fuelled Short Sea Ferry: Gas Dispersion Analysis through Vent Mast

Injun Yang, Hayoung Jang, M.P. Mujeeb-Ahmed, Insik Hwang, Haibin Wang, Byongug Jeong, and Peilin Zhou (University of Strathclyde)*

7C1-T1.2-2

14:05~14:30

Using Gas Dispersion Analysis to Inform Design and Mitigation Measures for Maritime Vessels using Alternative Fuels

Nikkii Ng (Lloyd's Register)

7C1-T1.2-3

14:30~14:55

The Development of A Simulation Technique of Oceanic Spread from Accidental Release of Eco-Friendly Ship Fuel

Seulgi Lee, Sungsu Lee, and Jeong-ah Um (Chungbuk National University)*

7C1-T1.2-4

14:55~15:20

Study on The Application of a Simulation Technique of Oceanic Spread from Accidental Release of Eco-Friendly Ship Fuel

Jeongah Um, Sungsu Lee and Seulgi Lee (Chungbuk National University)*

7D1-T2.4 Design & Performance 4

Date	7 (Thu.) November 2024
Time	13:40~15:20
Place	Bradford
Session Chair	Dr. Mohammed Islam (National Research Council Canada)

7D1-T2.4-1

13:40~14:05

CFD Prediction of Hydrodynamic Force on a BB2 Submarine Operating at Near the Free Surface with Different Depths

Doojin Jung, Jinhae Kim, Deoksu Kim, and Youngbum Lee (Hanwha Ocean Co., Ltd)*

7D1-T2.4-2

14:05~14:30

Enhancing Resistance Performance of the Skeg Shape for the Transportation Barge through Computational Design Approaches

Janghoon Seo and Dong-Woo Park (Tongmyong University)*

7D1-T2.4-3

14:30~14:55

Validation of the Pressure Variation Model based on Numerical Analysis using Model Test

Aeri Cho, Thi Loan Mai, Namug Heo, Ji-Hye Kim, and Hyeon Kyu Yoon (Changwon National University), Jin-Young Park and Sung-Hoon Byun (KRISO)*

7D1-T2.4-4

14:55~15:20

Evaluating the Accuracy of ISO15016 Method for Speed-Power Performance Assessment in Operating Ships with a Post-Correction Method for Speedlog

Do-Young Park, Min-Woo Kim and Ju-Hyuck Choi (HD Heavy Industries)*

7E1-T6.3 Digitalisation 3

Date	7 (Thu.) November 2024
Time	13:40~14:55
Place	Standish
Session Chair	Prof. Myung-Il Roh (Seoul National University)

7E1-T6.3-1

13:40~14:05

A Method for Pipe Auto-routing using Graph and Octree Structure

Min-Chul Kong, Myung-Il Roh, In-Su Han, and Seong-Won Choi (Seoul National University), Mijin Kim, Jeoungyoun Kim and Inseok Lee (HD Korea Shipbuilding & Offshore Engineering Co., Ltd.)*

7E1-T6.3-2

14:05~14:30

The Development of an Interface between 3D CAD Software and Classification Software for 3D Model-Based Approval

Hyeong-Rae Choi, Jong-Oh Kim, Joung-Hyun Lee, and Ho-Gyun Park (Korean Register), Teuk-Gyu Jang (NAPA)*

7E1-T6.3-3

14:30~14:55

How to give consistency from Design 3D Model to Shipbuilding Field

Luke (yang Ouk) Kim, Kyung Ho Lee and Hyun Soo Kim (Inha Technical College)*

7F1-T4.2 Marine Material & Equipment 2

Date	7 (Thu.) November 2024
Time	13:40~14:30
Place	Winslow
Session Chair	Mr. Martyn Wright (Lloyd's Register)

7F1-T4.2-1

13:40~14:05

A Study on A Method of Treating Ship Washing Wastewater using Robots as a Means of Removing Marine Biofouling Organisms

Sang-Ho Park and Man-Soo Kim (S&SYS), Jun-Hyuk Yang (KOMERI)*

7F1-T4.2-2

14:05~14:30

Hull Management- AFS's Role in Reduction of GHG Emissions and Biofouling Management

Heather Hughes, Sahan Abeyssekara and Richard Dawson (Lloyd's Register)*

7A2-T2.5 Design & Performance 5

Date	7 (Thu.) November 2024
Time	16:00~17:40
Place	Mayflower 1
Session Chair	Dr. Fabio Di Felice (CNR-Institute of Marine Engineering)

7A2-T2.5-1 Water Lubricated Bearings - An Alternative Design for Commercial Vessels
16:00~16:25 *Chris Leontopoulos* and Spyros Hirdaris (ABS)*

7A2-T2.5-2 A Comprehensive Exploration of Flaws Within Additive Manufacturing Processes in the Maritime Industry
16:25~16:50 *Mario Augusto Lopes de Castro*, Adam Saxty, Martyn Wright, and Sean Murray (Lloyd's Register)*

7A2-T2.5-3 Risk Assessment by 20Ft Container Drop Object on the Platform Installed on Top of on Deck LC02 Storage Tank of Container Ship with OCCS Specifications
16:50~17:15 *Hyeong-Ju Kim (HD Hyundai Samho)*

7A2-T2.5-4 Development Of Risk Assessment Application For Dragging Anchor "Ikari-Ing" And Its Use For Accident Analysis
17:15~17:40 *Harukuni Taguchi*, Hideki Miyazaki and Koki Kawamura (National Maritime Research Institute)*

7B2-T6.4 Digitalisation 4

Date	7 (Thu.) November 2024
Time	16:00~18:05
Place	Mayflower 2
Session Chair	Dr. Cong Nguyen (Lloyds' Register)

7B2-T6.4-1 Automatic Structural Safety Evaluation of Truss Structure Based on 3D CAD Modeling
16:00~16:25 *Hyuk-Min Kwon (HD Hyundai Heavy Industries)*

7B2-T6.4-2 An Utilisation of Ais Data on the Derivation of Trading Patterns for Fatigue Design Assessment and Fatigue Life Monitoring of Ships
16:25~16:50 *Cong Nguyen*, Wei Shao, Shengming Zhang, and Hasan Ocakli (Lloyd's Register EMEA), Kie Hian Chua (Lloyd's Register)*

7B2-T6.4-3 A Study on Signal Processing of Measurement Data on Real Ship Response for CBM+ of Hull Structure
16:50~17:15 *Hye-Min Seong*, Jae-Young Choi and Keun-bok Song (HD Hyundai Heavy Industries), Kyoung-Tae Kim (Korean Register)*

7B2-T6.4-4 Automation of Local Model by using Fegate for Ship and Generation of Structural Strength Prediction Model based on Machine Learning by using Simulation Data
17:15~17:40 *Ho-Yong Jung* and Teuk-Jin Koh (Hanwha Ocean), ShinWoo Jang and JaeWook Ahn (Raonx Solutions)*

7B2-T6.4-5 Innovative Approach for Evaluating Safety and Performance of Ship Hull Structures through Collaboration between Classification Societies, Shipyards, and Software Developers
17:40~18:05 *Jaewook Ahn* and Joontae Jang (Raonx Solutions), Kibok Jang (Samsung Heavy Industries), Kwangcheol Ha (Lloyd's Register)*

7C2-T3.1 Decarbonisation 1

Date	7 (Thu.) November 2024
Time	16:00~17:40
Place	Mayflower 3
Session Chair	Dr. Lukas Kistner (HD Hyundai Europe Research & Development Center)

7C2-T3.1-1 Comparative Study on Overall Efficiency of Ammonia Reforming for Fuel Cell Ships
16:00~16:25 *Donghyun Oh* and Jae-Myung Lee (Pusan National University)*

7C2-T3.1-2 Quantifying the Impact of Environmental Regulations on the Economic Competitiveness of Solid Oxide Fuel Cells in Marine Applications
16:25~16:50 *Lukas Kistner* and Kevin Koosup Yum (HD Hyundai Europe Research & Development Center)*

7C2-T3.1-3 Development of MSR-based Nuclear Propulsion Ship
16:50~17:15 *Jongwon Kim*, Sangmin Lee, Chewook Yim, Heesung Lee, and Hoki Lee (Samsung Heavy Industries)*

7C2-T3.1-4 CFD Simulations of Self-Propulsion of a Bulk Carrier with Wind-Assisted Propulsion by OpenFOAM
17:15~17:40 *Ivan Tomljenović and Nikola Vladimir* (University of Zagreb), Inno Gatin (In silico d.o.o)*

7D2-T2.6 Design & Performance 6

Date	7 (Thu.) November 2024
Time	16:00~17:40
Place	Bradford
Session Chair	Prof. Sang Eui Lee (Changwon National University)

7D2-T2.6-1 Trajectory Optimization of an Underwater Glider: An MPC Approach
16:00~16:25 *Evren Kagan Gursel (University of Strathclyde)*

7D2-T2.6-2 Investigation of Cavitating Flow And Induced Noise Characteristics Around Whale-Inspired Hydrofoils
16:25~16:50 *R.I.A. Simanto, J.W. Hong, V.D. Pham, Y.J. Kim, and B.K. Ahn* (Chungnam National University)*

7D2-T2.6-3 Experimental and Numerical Investigation of Twisted Hydrofoils in Cavitating Flow
16:50~17:15 *Sinem ÖKSÜZ* (Piri Reis University, Yıldız Technical University), Onur USTA (National Defence University), Fahri ÇELİK (Yıldız Technical University)*

7D2-T2.6-4 CFD based Design Optimization of Ducted Propeller in Open-Water Condition
17:15~17:40 *Sang-Hyun Kim and Ji-Hye Kim* (Changwon National University)*

7E2-T8 Offshore Renewable Energy

Date	7 (Thu.) November 2024
Time	16:00~18:05
Place	Standish
Session Chair	Dr. Winston D'Souza (Lloyd's Register)

7E2-T8-1

16:00~16:25

An Application of Efficient Structural Analysis in Time Domain to a Floating Wind Turbine
*Young-Hoon Shin** and *Seung-Jae Lee* (National Korea Maritime and Ocean University), *Min-Jun Lee* (China University of Petroleum-Beijing)

7E2-T8-2

16:25~16:50

Scale-down Structure Test of Fairlead Chain Stopper for MW-class Floating Wind Turbine System

*Chang-Yong Song**, *Min-Seok Cheong*, *Joo-Young Lim*, *Shin-Woo Park*, and *Mahardika Rizki Pynasti* (Mokpo National University)

7E2-T8-3

16:50~17:15

Inter-Array Cabling Methods for a 12MW Floating Offshore Wind Turbine

*Daseul Jeong**, *Chunshik Shim*, *Kangho Kim*, *Jiwoo Kim*, *Seunghwan Oh*, and *Min Suk Kim* (Mokpo National University)

7E2-T8-4

17:15~17:40

IECRE Certification of Marine Energy Technologies

Winston D'Souza (Lloyd's Register)

7E2-T8-5

17:40~18:05

3D URANS Modeling of Simultaneous Wave and Current Actions on Offshore Monopiles

*Ali Kareem Hilo** (Chungnam National University, University of A Coruna), *Felix Nieto* and *Antonio J. Alvarezb* (University of A Coruna), *Byoung-Kwon Ahn* (Chungnam National University)

7F2-T5 Maritime Autonomous Surface Ships

Date	7 (Thu.) November 2024
Time	16:00~18:05
Place	Winslow
Session Chair	Prof. Jaeyong Lee (Dong-Eui University)

7F2-T5-1

16:00~16:25

A Study on Real-Time Ship Position Estimation Using the Unscented Kalman Filter Incorporating Ship Dynamics Based on AIS Data

Won-Jun Yoo, *Kwang-Jun Paik**, *Mu-Yeong Seo*, and *Sanghyun Kim* (Inha University)

7F2-T5-2

16:25~16:50

Development of Multi-Vessel Tracking Algorithm using Maritime Environment Radar

Tae-hoon Yoo, *Dong-Min Choi*, *Joo-Hyun Lee*, and *Won-keun Youn** (Chungnam National University)

7F2-T5-3

16:50~17:15

Monte-Carlo Tree Search Based Efficient Weather Routing Algorithm for Sea-Going Vessels

Ji-Seong Chung and *Tae-Wan Kim** (Seoul National University)

7F2-T5-4

17:15~17:40

Development of Marine Logistics Accident Analysis Model Based on Large Language Models

Jiye Choi, *Woorim Shin*, *Jangmin O*, and *Yangjun Ahn** (Sungshin Women's University), *Eon-Kyung Lee* (Korea Maritime Institute), *Sewon Kim* (Sejong University)

7F2-T5-5

17:40~18:05

Optimization of A-Star Algorithm Based on Ocean Traffic Congestion for Autonomous Ship

*Da-Bin Lee**, *Su-Hwan Kim* and *Se-Won Kim* (Sejong University)

8A1-T2.7 Design & Performance 7

Date	8 (Fri.) November 2024
Time	13:40~15:20
Place	Mayflower 1
Session Chair	Dr. Sime Malenica (Bureau Veritas Marine & Offshore)

- 8A1-T2.7-1** Structural design assessment of CALM Buoy by RBA and FDA
 13:40~14:05 *Aijun Wang and Jaekyun Kim (Lloyd's Register)*
- 8A1-T2.7-2** Evaluation of Ultimate Compressive Performance of Medium Thick Composite Cylindrical Pressure Shell under Deep-Sea Hydrostatic External Pressure
 14:05~14:30 *Chang Li Yu*, Xu Jiang and Yuan Zeng (Harbin Institute of Technology)*
- 8A1-T2.7-3** The Influence of a Towed Trawl on the Motion Responses and Wave Drift Forces of Fishing Vessel
 14:30~14:55 *Thi Thanh Diep Nguyen and Hyeon Kyu Yoon* (Changwon National University)*
- 8A1-T2.7-4** Some Aspects of the Second Order Theory for Wave Body Interactions
 14:55~15:20 *Sime Malenica (Bureau Veritas Marine & Offshore)*

8B1-T6.5 Digitalisation 5

Date	8 (Fri.) November 2024
Time	13:40~14:55
Place	Mayflower 2
Session Chair	Prof. Sun Je Kim (Chungnam National University)

- 8B1-T6.5-1** Development of Real-Time Sailing Mode Selection Algorithm For Ems
 13:40~14:05 *Changjae Moon, Kido Park, Kyungwha Kim, and Giltae Roh* (Korean Register)*
- 8B1-T6.5-2** A Study on Heterogeneous Drone Deployment Method and Object Detection Algorithm Application for Maritime Monitoring
 14:05~14:30 *Hyeon-Bin Yeo, Kyungho Lee*, Youngsu Kim, and Luke (Yang Ouk) Kim (Inha University)*
- 8B1-T6.5-3** Cloud-Based High Fidelity Digital Twins for Integrated Multi-Domain Simulation: Gas Management and Cargo Handling Control System Commissioning
 14:30~14:55 *Younguk Min* (HD KSOE), Seunghyeon(Stanley) Yoo (DNV Korea)*

8C1-T3.2 Decarbonisation 2

Date	8 (Fri.) November 2024
Time	13:40~15:20
Place	Mayflower 3
Session Chair	Dr. Jongwon Kim (Samsung Heavy Industries)

8C1-T3.2-1

13:40~14:05

Exploring the Role of Onboard Carbon Capture in Decarbonising the Shipping Sector: In-depth Feasibility Evaluation of Process Options

Donghoi Kim, Rahul Anantharaman, Sai Gokul Subraveti, and Simon Roussanaly (SINTEF Energy Research), Sadi Tavakoli (SINTEF Ocean)*

8C1-T3.2-2

14:05~14:30

Towards Sustainable Maritime Practices: A Comprehensive Life Cycle Assessment of an LNG Carrier from Cradle to Grave

Kumar Pranav and Manasi Bhopale (Lloyd's Register)

8C1-T3.2-3

14:30~14:55

Development of The Phils System For Energy Efficiency Analysis And Power Control Optimization of Hybrid Electric Propulsion Ship

Su Bin Choi, Soon Ho Hong, Hyun Min Song, and Sun Je Kim (Chungnam National University)*

8C1-T3.2-4

14:55~15:20

Study on Heat Transfer and Compressive Performances Under Cryogenic Condition of Reinforced Polyurethane Foam for LNG Cargo Containment System

Chang-Yong Song, Ha-Cheol Song, Da-Un Jeong, Sang-Hyeok Park, and Ho-Jun Lee (Mokpo National University)*

8D1-T1.3 Alternative Fuel 3

Date	8 (Fri.) November 2024
Time	13:40~15:20
Place	Bradford
Session Chair	Mr. Ioannis Chalaris (University of Strathclyde)

8D1-T1.3-1

13:40~14:05

Performance Analysis of a 1 kW Water-Cooled Proton Exchange Membrane Fuel Cell System for Maritime Applications

Quang Khai Nguyen, Kwang Hyo Jung, Hyun Park, and Jae Hong Kim (Pusan National University)*

8D1-T1.3-2

14:05~14:30

Sloshing Phenomena in LH2 Tanks: Computational Analysis of Pressure Changes and Boil-off Gas

Woorim Lee and Sungwon Lee (HD Korea Shipbuilding and Offshore), Yongwon Lee and Padmini Mellacheruvu (Lloyd's Register), Dominic Hudson and Edward Richardson (University of Southampton)*

8D1-T1.3-3

14:30~14:55

Experimental Study on Performance Degradation of PEMFC Single Cells in Maritime Operating Environment

Jae Heon Kwon, Seon Hyeong Lee, Jae Hong Kim, Hyun Park, and Kwang Hyo Jung (Pusan National University), Moonho Son (Samsung Heavy Industries)*

8D1-T1.3-4

14:55~15:20

Strategic Forecasting of GHG Emissions: Econometrically Enhanced LCA for the Singapore-Rotterdam Containership Green Corridor

Ioannis Chalaris and Byongug Jeong (University of Strathclyde)*