International Conference on Marine Technology (MARTEC 2022)

PROGRAM SCHEDULE

DAY 0: 20th December 2022, Tuesday

Venue: NAME Seminar Room, 5th Floor, ME Building, BUET

15:00-17:00 Registration

DAY 1: 21st December 2022, Wednesday

Venue: Council Building, BUET, Dhaka-1000

08:00-09:00 Registration

09:00-10:30 Inauguration

10:30-11:00 Tea Break

Keynote Session I

21 December 2022 (Wednesday)

Venue: Council Building, BUET

11:00 – 13:00 Session Chair: Prof. Dr. A. S. M. A. Haseeb

Keynote 1	Green shipbuilding and the blue economy *Dr. Abdullahel Bari, Chairman, Ananda Group*
Keynote 2	Lifelong learning and time series forecasting using scalable spatio-temporal graph neural networks *Professor Dr. Latifur Khan, University of Texas at Dallas*
Keynote 3	International initiatives for low carbon shipping *Professor Dr Omar bin Yaakob*

13:00-14:30 Prayer and Lunch Break

Session A1.1 (Technical Papers: Ship Resistance and Propulsion, Marine Hydrodynamics, Computational Fluid Dynamics)

Date: 21 December 2022 (Wednesday)

Venue: A (NAME Seminar Room, 5th Floor, ME Building, BUET)

14:30-16:00	Session Chair: Dr. Adi Maimun bin Abdul Malik
Paper #	Title and Authors
210	Improvement on the propulsive performance of a cargo ship with a gate rudder system Md. Mashud Karim and Md. Daluar Hussain
214	Added resistance in waves, notably in short waves Laboni Afroz and Md. Sadiqul Baree
217	Numerical investigation of the rudder-propeller interaction in open water with and without a duct Anup Kumar, Md. Daluar Hussain and Md. Mezbah Uddin
221	Numerical analysis of flow over bluff bodies of different shapes Adnan Masruf Abir, Parama Roy Chowdhury and Goutam Kumar Saha
227	Numerical prediction of free surface water wave due to the flow around cambered hydrofoil Sajid Hossain, Tawhidur Rahman and Md. Mashud Karim
233	Hydrodynamic performance analysis of hydrofoil supported high-speed vessel using computational fluid dynamics Rounak Saha Niloy, Mohammed Jubair Dipto and Mirza Md. Mehedi Hassan

Session B1.1 (Technical Papers: Marine Structure and Material)

Date: 21 December 2022 (Wednesday)

Venue: B (TSC, 5th Floor, ME Building, BUET)

14:30-16:00	Session Chair: Prof. Dr. M. Ashiqur Rahman
Paper #	Title and Authors
277	Topology optimization of an MBB-beam for both structured and unstructured meshes Ali Zulkar Nayem and Md. Shahidul Islam
281	Analysis of marine fender systems minimizing the impact of collision incidents Mahmud Shahriare Atiq, A K Jamil Shajib and Kazi Naimul Hoque
245	Corrosion propagation of steel rebar embedded in marine structures prepared with binary blended concrete containing slag Kazi Naimul Hoque and Francisco Presuel-Moreno
256	Corrosion behavior of reinforcing steel embedded in fly ash concrete Kazi Naimul Hoque and Francisco Presuel-Moreno
275	Numerical analysis of collision damage between supply vessels and offshore monopile foundation Nabiha Tasnim, Md. Wahidur Rahman, Fatima Noureen, Aninda Kumar Chowdhury and Kazi Naimul Hoque
209	Comparison of corrosive nature of shipbuilding plates in fresh water and sea water Kaosar Rashid, Sarah Jabin Chowdhury Oyshi and Zarin Tahsin

Session C1.1 (Technical Papers: Ship Design, Ship Building, Green Shipping, Blue Economy)

Date: 21 December 2022 (Wednesday)
Venue: C (Computer Lab, 5th Floor, ME Building, BUET)

14:30-16:00	Session Chair: Prof. Dr. Md. Reaz Hasan Khondoker
Paper #	Title and Authors
203	Energy-efficient inland cargo ship design based on fuel consumption and CO_2 emission control using CFD S M Rashidul Hasan and Md Mashud Karim
266	Study and analysis of a solar electric boat with dynamic design strategy in efficient way Tawheed Hasan, Shahrizan Jamaludin, WB Wan Nik and Mehedi Hasan Rajib
250	Artificial intelligence for ship design process improvement: A conceptual paper Adi Maimun, Siow Chee Loon and Jauhari Khairuddin
255	An investigation of the sensitivity between various financial parameters and the financial performance of a ship building project in Bangladesh A.S.M Afrin Bin Nur, Eshrak Kader, Sarkar Mohiminul Islam, Md. Mashiur Rahaman and N. M. Golam Zakaria
269	SWOT analysis of the shipbuilding industry of Bangladesh in the light of IR4.0 Priti Halder, Nafisa Mehtaj and N.M. Golam Zakaria
271	A comparative study of blue economy status and initiatives between Bangladesh and China ASM Mahadi, Shahriar Ahmed, Md. Mashiur Rahaman and N.M. Golam Zakaria
262	Opportunity cost of the ship owners to comply with IMO 2020 requirements: A case study of Bangladeshi ship owners Kazi Khaled Mahmud, Md. Mostafa Aziz Shaheen, Mohammed Mojahid Hossain Chowdhury and Md. Arif Mahmud

Session D1.1 (Technical Papers: Heat Transfer)

Date: 21 December 2022 (Wednesday)
Venue: D (Simulation Lab, 5th Floor, ME Building, BUET)

14:30-16:00	Session Chair: Prof. Dr. Md. Mustafa Kamal
Paper #	Title and Authors
201	Analysis of two-phase flow in the porous medium through a rectangular curved duct Md. Khalilur Rahman, Salma Parvin and Md. Abdul Hakim Khan
242	Numerical simulation of the impact of series fin on fluid flow and heat transfer in an enclosure using Galerkin finite element methods Md. Shamim Hasan, Md. Fayz -Al-Asad , Rajib Kumar Bhowmik, K. M. Ariful Kabir and M.M.A Sarker
243	Numerical study on natural convection of nanofluid flow and heat transfer in a wavy enclosure Ali Ahmad, Md. Fayz-Al-Asad, A.K.M. Reaz Uddin, Mostak Ahmed and M.M.A Sarker
244	Numerical investigation of internal heat generation and absorption on magnetohydrodynamic mixed convection in an enclosure with sinusoidal bottom wall Rajib Kumar Bhowmik, Md. Fayz -Al-Asad, Md. Shamim Hasan and M.M.A Sarker
265	Numerical study of MHD-mixed convection in a double lid-driven cavity having a heated circular hollow cylinder using Al2O3-water nanofluid Tanmoy Bairagi and M.M. Rahman
278	Analysis of MHD mixed convection and Joule heating in a Lid-driven cavity having a square block using Cu-water nanofluid M.M. Rahman, Tanmoy Bairagi and Romana Sultana

16:00-16:30 Prayer and Tea Break

Session A1.2 (Technical Papers: Ship Resistance and Propulsion, Marine Hydrodynamics, Computational Fluid Dynamics)

Date: 21 December 2022 (Wednesday)
Venue: A (NAME Seminar Room, 5th Floor, ME Building, BUET)

16:30-18:00	Session Chair: Prof. Dr. Md. Sadiqul Baree
Paper #	Title and Authors
211	Numerical computation of hydrodynamic characteristics of Suboff bare hull model Md. Mashud Karim, Musaddik Rahman Jaowad and Amanat Hossain Emon
222	Numerical study of the roughness effects on resistance of a bulk carrier Md. Daluar Hussain, Md. Mashud Karim and Osman Md Amin
235	Numerical analysis of steady laminar flow by finite volume method in connection with SIMPLE algorithm Rubayed Razib, Mehrab Hasan, Saquib Ahmad Bhuiyan and Md. Sanwar Kader
206	Numerical investigation of hydrodynamic performance of conventional and ducted propeller Md. Shahjada Tarafder, Md. Imdadul Haque, Md. Assaduzzaman and Md. Zahidul Islam Laku
246	A numerical investigation on hydrodynamic interaction coefficients for two freely floating barges of tandem configuration in waves Mir Tareque Ali and Golam Sobahani
248	A comparative numerical study on the turbulent flow around hydrofoil between Ansys Fluent and OpenFoam Md. Shahjada Tarafder and Md. Shariful Islam

Session B1.2 (Technical Papers: Marine Structure and Material)

Date: 21 December 2022 (Wednesday)
Venue: B (TSC, 5th Floor, ME Building, BUET)

16:30-18:00	Session Chair: Prof. Dr. Md. Afsar Ali
Paper #	Title and Authors
252	A study on the variation in structural scantling requirements among various classification societies for a coastal cargo vessel Md. Humayun Kabir, Md. Golam Kibria, Md. Mashiur Rahaman and N.M. Golam Zakaria
257	Corrosion of steel rebar embedded in ternary blended concrete exposed to high humidity environment Kazi Naimul Hoque and Francisco Presuel-Moreno
263	Accelerated corrosion of steel rebar in concrete by electromigration: effect of reservoir length and concrete mixes Kazi Naimul Hoque and Francisco Presuel-Moreno
213	A structural analysis of stress concentration factor of rectangular openings in ships with various corner radii Musiha Mahfuza Mukta, Souptik Roy and Md. Shahidul Islam
228	Fatigue analysis of fillet welded joints using hotspot stress method Tasmia Hoque and S M Ikhtiar Mahmud
230	Retrofitting of bulk carrier to self-unloader, structural perspective Md. Zulfiqar Haider and S M Ikhtiar Mahmud

Session C1.2 (Technical Papers: Ocean, Offshore, Port and Harbor Engineering)

Date: 21 December 2022 (Wednesday)
Venue: C (Computer Lab, 5th Floor, ME Building, BUET)

16:30-18:00	Session Chair: Commodore M Ziauddin Alamgir
Paper #	Title and Authors
224	Wave energy converter suitable for fishing vessel in deep coastal areas of Bangladesh Md. Ismail, Lamisa Musharrat and Goutam Kumar Saha
225	Parametric investigation of a cascaded fluidic diode for a wave energy converter Doddamani Hithaish and Abdus Samad
260	Numerical simulation of geometrical parameters effect on wavecat energy converter M.A.Musa, M.F.Roslan, A.Fitriadhy,Y.W.Eissa, S.Z.A.Syed Ahmad and M. F. Ahmad
253	An overview of offshore technologies and their suitability for hydrocarbon exploration and production in the Bay of Bengal Mohammed Mahbubur Rahman, Md. Aliul Azim and Shaumik Rahman Ayon
216	An alternative proposal for jetty and pontoon design in Paturia ferry ghat S M Ikhtiar Mahmud, Dishan Majumder and Shahriar Hasan Fahim
267	Automated handling of port containers using machine learning Md. Mashud Karim, Abu Saleh Md. Arman Buhuiyan, Bhubon Thiotonius Costa and Md. Ashifur Rahman

Session D1.2 (Technical Papers: Heat Transfer, Marine Maintenance)

Date: 21 December 2022 (Wednesday)
Venue: D (Simulation Lab, 5th Floor, ME Building, BUET)

16:30-18:00	Session Chair: Prof. Dr. Md. Abdul Alim
Paper #	Title and Authors
226	Radiation and heat generation effects on magneto-convective fluid flow over a vertical permeable plate Mohammed Jahir Uddin and R. Nasrin
229	Time-dependent thermal-material transfer of micropolar binary mixture fluid: Effects of Lorentz force and inclination Md. Mosharrof Hossain, Md. Hasanuzzaman and R. Nasrin
240	Numerical simulation of heat transfer performance of Ionanofluid flow inside two connected oblique triangular enclosure I. Zahan, R. Nasrin and S. Hasan
208	Numerical computation of thermal performance of earth pipe cooling systems Osman Goni Ridwan, Shameem Shahrear Sifat, Fahim Ebnne Idrish and Md. Mashud Karim
268	Parametric analysis on performance of nanofluid based photovoltaic thermal (PVT) system in Dhaka, Bangladesh A. K. Azad, Salma Parvin and Tahiya Hossain
284	A practical review to the marine maintenance practice in Bangladesh and a proposed way forward to an efficient, long-term and cost-effective solution Aninda Kumar Chowdhury, Md. Muhiul Islam Muhit, and Md. Moinul Islam

Dinner **19:00-22:00** **BUET Cafeteria**

DAY 2: 22nd December 2022 (Thursday)

Session A2.1 (Technical Papers: Ship Resistance and Propulsion, Marine Hydrodynamics, Computational Fluid Dynamics)

Date: 22 December 2022 (Thursday)
Venue: A (NAME Seminar Room, 5th Floor, ME Building, BUET)

9:00-10:30	Session Chair: Prof. Dr. Omar bin Yaakob
Paper #	Title and Authors
238	A comparative study of flow analysis around four circular cylinders using the numerical algorithm and AI-based tool Md. Mashud Karim, Samin Sadman Shad and Al Ikram Amit
249	Comparative numerical simulation of laminar flow through pipe using COMSOL Multi-Physics and OpenFoam Md. Shahjada Tarafder and Md. Jobayer Mia
251	Computational fluid dynamics analysis of engine room ventilation of a bulk carrier plying in the inland waterways of Bangladesh Md. Rafsan Zani, Md. Tariqul Hossain, Mostafizur Rahman, Md. Mashiur Rahaman and N.M. Golam Zakaria
254	On hydrodynamic analysis of a floating vertical cylinder attached with heaving plate in regular waves Mir Tareque Ali, Prattay Datta, Titu Ranjan Sarker and Irtesam Nasrat
280	Analysis of potential flow around a hydrofoil using Vortex Lattice Method Ali Zulkar Nayem and Md. Shahjada Tarafder
279	Numerical simulation of turbulent flow around hydrofoil by Spalart-Allmaras model with COMSOL MultiPhysics Md. Shahjada Tarafder and Md. Syful Isalm Bipul
247	Performance evaluation of high-speed semi-displacement catamaran hull forms M. S. Baree and Hasib Ahammed

Session B2.1 (Technical Papers: Marine Structure and Material)

Date: 22 December 2022 (Thursday)
Venue: B (TSC, 5th Floor, ME Building, BUET)

9:00-10:30	Session Chair: Prof. Dr. S. Reaz Ahmed
Paper #	Title and Authors
276	Performance of progressive failure analysis of a high strength Aluminum alloy M.F. Hossain, K.M. Shorowordi and M.S. Islam
234	Investigation of arc welding joining effects on microhardness and impact toughness of marine Grade-A mild steel M Muzibur Rahman, Maher Niger Prova, M Abdul Halim and S Reaz Ahmed
258	Finite element approach to analyze structural discontinuities associated with ship hull Kazi Naimul Hoque and Md. Shahidul Islam
273	Design of face bar reinforcements for ship's openings using finite element analysis Md. Rabbi Raihan Imon and Md. Shahidul Islam
274	Numerical analysis of castellated beams with various web openings for marine structures Md. Abidul Islam and Md. Shahidul Islam
264	Numerical analysis of supply vessel collision with tripod jacket structures Md. Wahidur Rahman and Kazi Naimul Hoque

Session C2.1 (Technical Papers: Ship Safety, Environmental Protection)

Date: 22 December 2022 (Thursday)
Venue: C (Computer Lab, 5th Floor, ME Building, BUET)

9:00-10:30	Session Chair: Prof. Dr. Sayyid Zainal Abidin Syed Ahmad
Paper #	Title and Authors
236	A probabilistic risk analysis of marine railway type docking Zobair Ibn Awal, Md. Aniruddah Alam and Md. Rayhan Kabir
241	Design of an efficient and economic bilge water management system in inland waterway vessels of Bangladesh S M Ikhtiar Mahmud, Mohammad Tanvir Hossain, Md. Mifthaul Jannat Maktum and Md. Tasdid Hasan Anik
259	A survey on occupational health and safety in the ship recycling industries of Bangladesh Md. Shariful Islam, Zobair Ibn Awal, M Ziauddin Alamgir, Shazid Hossain Adib and Fatema Tuj Jerin
282	A study to assess the safety aspects and marine traffic congestion at Karnaphuli channel Hafizur Rahman , Shaumik Sharif and M. Rafiqul Islam
283	A step towards IMO greenhouse gas reduction goal: Development of machine learning based CO_2 emission prediction model Ishrar Israil Monisha, Nafisa Mehtaj and Zobair Ibn Awal
270	Detection of underwater ships categorically using Convolutional Neural Network and power efficient remotely operated vehicle Fahim Ahmed Irfan and Md. Mashud Karim
285	Marine accident prediction in Bangladesh waterways using machine learning Md. Nabil Sadd Sammo, Md. Moinul Islam, Aninda Kumar Chowdhury

10:30-11:00 **Tea Break**

Session A2.2 (Technical Papers: Ship Recycling, Marine Engineering)

Date: 22 December 2022 (Thursday)
Venue: A (NAME Seminar Room, 5th Floor, ME Building, BUET)

11:00-13:00	Session Chair: Commodore Dr. Khandakar Akhter Hossain
Paper #	Title and Authors
237	Developing a MCDM-based framework for achieving a circular economy through ship recycling Bisma Mannan, Md Jahir Rizvi and Yong Ming Dai
239	Conversion design of an idle ferry port into green ship recycling yard Sunaryo Sunaryo and Ferdy Yacobus Santoso
261	Practice of green ship recycling in Bangladesh: a study on KSRM steel ltd. Ataur Rahman and Asma Jarin
272	A study on the financial feasibility of compliant ship recycling yards in Bangladesh S.S. Dipto, H. Rahman, N. Mehtaj, M.S. Mawla and N.M.G. Zakaria
219	Study of the potential of LNG fueled ship bunkering system in Bangladesh S M Ikhtiar Mahmud, Md. Rabbi Raihan Imon, Lamia Salehin and Md. Mehedi Islam Limon
215	Prospect of LPG for marine engines in Bangladesh S M Ikhtiar Mahmud and Syed Aurongzeb Ahmed

Session B2.2 (Technical Papers: Ship Safety, Environmental Protection)

Date: 22 December 2022 (Thursday)
Venue: B (TSC, 5th Floor, ME Building, BUET)

11:00-13:00	Session Chair: Prof. Dr. Abdus Samad
Paper #	Title and Authors
205	Probabilistic damage stability verification of a passenger vessel Md. Shahjada Tarafder, Md. Ashfaq Siddiquee and Humayra Farhin Ahona
231	Probabilistic analysis of grounding near the waterway of Rampal power plant in Bangladesh for random ship-speeds Zobair Ibn Awal and Md Riasat Morshed Khan
207	Investigation of a recurring type collision on the Padma multipurpose bridge pillar using Systems Theoretic Accident Model and Processes (STAMP) approach Aninda Kumar Chowdhury, Armana Sabiha Huq and Syed Assiqul Haque
212	An assessment of the environmental pollution from welding process, surface preparation, and fitting and fixing in shipbuilding sector in Bangladesh Md. Shahnewaz and Md Daluar Hussain
218	Design of a floating wash platform and water treatment plant for Gypsy community of Bangladesh SM Iktiar Mahmud, Mohammad Tanvir Hossain, Md Tamimul Islam Joy and Md Samiul Islam
220	Effect of changing length and speed on the stability of a ship Khandakar Akhter Hossain, Nahid Hasan, Toufiq Ahmed Sohan and S M Ikhtiar Mahmud

13:00-14:00 Prayer and Lunch Break

Keynote Session II

22 December 2022 (Thursday)

Venue: Council Building, BUET

14:00 – 15:30 **Session Chair: Dr. Abdullahel Bari**

Keynote 4	Multiphysics analysis of naval structural responses under extreme fire conditions *Prof. Dr. Raj Das, RMIT University, Australia*
Keynote 5	Air Injection in reducing hull resistance of LNG vessel with ballast free system *Prof. Dr. Adi Maimun, UTM, Malaysia*

Closing Session	15:30-17:00	Council Building
Refreshment	17:00-17:30	Council Building
Dinner	19:00-22:00	Aristocrat Lounge