Programme Layout

The schedule may be changed due to unexpected problems and other reasons.

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<th>Date</th>
<th>Time</th>
<th>Hall (#501)</th>
<th>Room A (#501)</th>
<th>Room B (#502)</th>
<th>Room C (#401)</th>
<th>Room D (#402)</th>
<th>Exhibition (#403)</th>
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<td>Oct.18 (Tue.)</td>
<td>10:00</td>
<td>Opening Ceremony</td>
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<td>D1 Future Marine Fuels &amp; Lubricants 1</td>
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<td>A3 Future Engine 3</td>
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<td>15:10</td>
<td>A5 Future Engine 5</td>
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<td>Oct.20 (Thu.)</td>
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<td>A6 Future Engine 6</td>
<td>B6 Robotics, Automation &amp; Information 1</td>
<td>C7 Environmental Conservation 6</td>
<td>D6 Tribology 1</td>
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<td>A7 Future Engine 7</td>
<td>B7 Robotics, Automation &amp; Information 2</td>
<td>C8 Pollution Free 1</td>
<td>D7 Tribology 2</td>
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<td>A8 Advanced Propulsion 1</td>
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<td>A9 Advanced Propulsion 2</td>
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Presentation Rule

Presentation time is limited to be 20 minutes, in which questions and answers are included for about 5 minutes.
Keynote Speeches
October 18th (Tuesday)

Hall (#301) 11:10 – 11:50
Keynote Speech 1
KN-1 The 10-Year “HERCULES” R&D Program on Marine Engines
Nikolaos KYRTATOS (National Technical University of Athens)

Hall (#301) 13:40 – 14:20
Keynote Speech 2
KN-2 Japanese National Projects for Global Environmental Protection of the Maritime Sector
Koji TAKASAKI (Kyushu University)

Hall (#301) 14:20 – 15:00
Keynote Speech 3
KN-3 Visualization in Ship’s Operation
Yasuo TANAKA (NYK Line)

Technical Sessions
October 18th (Tuesday)

Room A (#501) 15:20 – 16:40
A1 Future Engine 1
A1-1 Effects of Injection Rate Modulation on Atomization of High Viscosity Liquid
Genta KOBAYASHI (Tokai University), Yusuke AKIYAMA and Akihiko AZETSU
A1-2 Injection Strategy with Merged Spray Characteristics for PCCI Combustion in Large Bore Diesel Engines
Satoshi KAWAUCHI (National Maritime Research Institute), Daisuke TSURU (Kyushu University), Haruhiko AYOYAGI and Hiroshi TAJIMA
A1-3 Engine Performance Analysis of Two Stage Injection Diesel Engine by Numerical Simulation Code HIDECS
Shingo ASA (Kobe University), Tomohisa DAN and Ichiro ASANO
A1-4 Effect of Spray Wall Impingement and Spray-to-Spray Impingement in Diesel Engine Cylinders on NOx Emission
Youichiro MARUTANI (IHI Corporation), Takayuki YAMADA and Takeshi YAMADA

Room B (#502) 15:20 – 16:40
B1 Heat & Fluid 1
B1-1 The Condensation Heat Transfer and Pressure Drop of R410A inside a Horizontal Small-Diameter Tube
Junya ICHINOSE (Tokyo University of Marine Science and Technology), Shuichi TANAKA and Norihiro INOUE
B1-2 Steady and Transient Critical Heat Fluxes under Sub-Atmospheric Pressures
Yantao LI (Kobe University), You YAMANE, Katsuya FUKUDA and Qiusheng LIU
B1-3 Transient Heat Transfer from a Twisted Heater in Gases
Shu XU (Kobe University), Qiusheng LIU and Katsuya FUKUDA
B1-4 Study on the Thermal Resistance and Pressure Fluctuation Behavior of Oscillating Heat Pipe
Yeong-Gueun KIM (Gyeongsang National University), Md. Riyad Tanshen, Hong-Do JUNG, Md. J. Nine, Han-Shik CHUNG and Hyo-Min JEONG
Room C (#401)  15:20 – 17:00
C1 Environmental Conservation 1
C1-1 Investigation of Pathogenic *Vibrio cholerae* in Seawater Collected from a Ship’s Engine Room and Estimation of Its Ability to Survive after Discharge from a Ship
Haruo MIMURA (Kobe University) and Takashi MIWA (Toyama National College of Technology)
C1-2 Experimental Study on Inactivation of Marine Bacteria Using Collapse of Microbubbles Induced by Shock Waves
Biyu WAN (Kobe University), Nobuhito TSUJII, Shinya FUKUDA, Akihisa ABE and Haruo MIMURA
C1-3 Development and Performance Evaluation of Periodic Underwater Shock Wave Generator for Shock Sterilization of Ballast Water
Akihisa ABE (Kobe University), Akihiro MIYACHI, Shinya FUKUDA, Akira SOU and Shigeru NISHIO
C1-4 Evaluation on Long-Term Impacts for Water Ballast Tank Coating Systems under Active Substances of Ballast Water Management System
Ryuji KOJIMA (National Maritime Research Institute), Saori USHIJIMA, Michiaki IKAI, Koichi UEDA, Toshiaki SHIBATA, Kenji YAMANE and Eiichi MURAOKA (Japan External Trade Organization Singapore)
C1-5 Interface Tracing Simulation of Shock-Bubble Interaction in Ballast Water
Masahiro NAKADA (Kobe University), Akira SOU, Akihisa ABE and Shigeru NISHIO

Room D (#402)  15:20 – 16:20
D1 Future Marine Fuels & Lubrications 1
D1-1 Improvement of Fuel Efficiency with Marine Diesel Lubricants
Shigeki TAKESHIMA (JX Nippon Oil & Energy Corporation), Naozumi ARIMOTO, Satoshi UMEKAWA and Tatsuro TSUKAMOTO (Tokyo University of Marine Science and Technology)
D1-2 Effect of Chemical Composition of Marine Fuel Oil on Its Ignition and Combustion Quality
Chiori TAKAHASHI (National Maritime Research Institute), Shoko IMAI, Osamu MIYATA and Hirotomo ANDO
D1-3 Ignitibility, Combustibility and After-Burning Characteristics of Bunker Fuel Oil Utilized with Optical Combustion Analyzer (OCA)
Eiji TOMITA (Okayama University), Koichi KAWATO, Yoshiro YAMAMOTO (Eiwa-Giken Co., Ltd.) and Kazuhiro MORINAKA

Technical Sessions
October 19th (Wednesday)

Room A (#501)  9:30 – 10:50
A2 Future Engine 2
A2-1 Multipurpose Protective Coatings for Marine Engineering
Alexander MINAEV (Far Eastern Federal University), Vladimir EGORKIN (Far Eastern Branch Russian Academy of Sciences), Dmitriy MASHTALYAR (Far Eastern Federal University), Sergey SINEBRYUKHOV (Far-Eastern National Technical University) and Sergey GNEDENKOV
A2-2 Thermal Analysis of Integrated Solid Oxide Fuel Cell and Micro Gas Turbine System for Marine Application
Jiqing HE(University of Strathclyde, Glasgow), Peilin ZHOU and David CLELLAND
A2-3 Structural Analysis of Engine Development for Reliability and Weight Reduction
Yasuhide WATANABE (Niigata Power System Co., Ltd.), Shoji KATO, Toshiyuki SAITO, Yasuko TODA and Satoru GOTO
A2-4 Construction of Simulation Model for Engine-Propeller Analysis
Kyoko NARUKAWA (National Maritime Research Institute), Kazuyoshi HARUMI, Koichi HIRATA, Feifei ZHANG (Tokyo University of Marine Science and Technology) and Etsuro SHIMIZU
Room A (#501)  11:10 – 12:30
A3 Future Engine 3
A3-1 The Technical Challenges of Gas Engines for LNG Fuelled Ships
Shinji YASUEDA (Gas & Diesel Engine Consultant)
A3-2 Development of the Kawasaki Green Gas Engine
Yosuke NONAKA (Kawasaki Heavy Industries, Ltd), Hideaki SAKURAI, Yoshishige SAKAI, Hiroyoshi ISHII and Tomohiko SUGIMOTO
A3-3 MAN B&W ME-GI Engines. Recent Research and Results
Lars R. JULIUSSEN (MAN Diesel & Turbo), Michael J. KRYGER and Anders ANDREASEN
A3-4 Experimental Study of Abnormal Combustion and Ignition Delay in Dual Fuel Type Gas Engine Combustion
Dino IMHOF (Kyushu University), Hiroshi TAJIMA, Koji TAKASAKI and Yudai KAWAFUCHI

Room A (#501)  13:30 – 14:50
A4 Future Engine 4
A4-1 Effects of Asymmetric Inflow on Cavitation in Diesel Injector Nozzle
Ryota OHASHI (Kobe University), Akira SOU, Ryohei SUGIMURA and Tsuyoshi TOMISAKA
A4-2 Numerical Models of Cavitation in Fuel Injector
Tomoyuki KINUGASA (Kobe University), Akira SOU and Yusuke KINUGAWA
A4-3 A "Spray Combustion Chamber" Facility for Investigations in Relation to Large 2-Stroke Marine Diesel Engine Combustion System Optimization
Kai Herrmann (Wärtsilä Switzerland Ltd), Beat von Rotz, Reiner Schulz, German Weiss, Bruno Schneider (ETH Zürich) and Konstantinos Boulochous
A4-4 Numerical Simulation of Low Speed Two Stroke Diesel Engine Combustion Process
Kazuro Hotta (Mitsubishi Heavy Industries), Yusuke Imamori and Satoru Murata

Room A (#501)  15:10 – 16:30
A5 Future Engine 5
A5-1 Experimental Study on Combustion Characteristics of Direct Water Injection with Double-Needle Type Injector
Daisuke TSURU (Kyushu University), Hisako KATO, Satoshi KAwauchi (National Maritime Research Institute) and Hiroshi TajiMa (Kyushu University)
A5-2 Particulate Matter Deposition on Urea SCR Catalyst for Marine Diesel Engines
Kazuki Awata (Kobe University) and Akira SOU
A5-3 Tier III SCR for Large 2-Stroke MAN B&W Diesel Engines
Henrik Christensen (MAN Diesel & Turbo), Michael Finch Pedersen, Peter Skjoldager and Marco Fam
A5-4 Propulsion of 47,000 DWT HANDYMAX Tanker
Birger Jacob森 (MAN Diesel & Turbo)

Room B (#502)  9:30 – 10:50
B2 Heat & Fluid 2
B2-1 Research about Efficiency Difference According to the TiO2 Mixture of Each Different Size in Dye-Sensitized Solar Cells
Seung-Hwa HWANG (Gyeongsang National University), Kwang-Hyun HAN, Han-Shik CHUNG and Hyo-Min Jeong
B2-2 Grinding Characteristic of Multi Walled Carbon Nanotubes-Alumina Composite
Yeonggeun KIM (Gyeongsang National University), Munkhbayar Batmunkh, Hyomin Jeong, Sunchul HuH, Seongsoo KIM and Hanshik CHUNG
B2-3 Investigation of CO2 Release in Multiple-Effect Distillers
Seongsoo KIM (Gyeongsang National University), Hyomin Jeong, Bayaraa NASAN, Han-Shik CHUNG, Chul-Mo YEO and Du-Yeal CHOI (Fluid & Thermal Engineering Co., Ltd.)
9th International Symposium on Marine Engineering
ISME KOBE 2011, October 17~21
Technical Programme

B2-4 Research on Vibration of Liquid-Filled Pipelines Considering Fluid-Structure Interaction
Gongmin LIU (Harbin Engineering University) and Yanhua LI

Room B (#502)  11:10 – 12:30
B3 Heat & Fluid 3

B3-1 Numerical Analysis on the Performance Prediction of a Multistage Mechanical Vapor Compressor
Hanshik CHUNG (Gyeongsang National University), Jusik WOO, Muhammad Nuim Labib, Daechul LEE, A. SUWONO (Bandung Institute of Technology) and Hyomin JEONG (Gyeongsang National University)

B3-2 Computational Study on the Effect of Lean Angle at the Blade Tip of the Impeller Inlet at Multistage Centrifugal Compressor
Hanshik CHUNG (Gyeongsang National University), Muhammad Nuim Labib, Jusik WOO, Duyoul CHOI (Fluid and Thermal Engineering Co., Ltd), Ismoyo HARYANTO (University of Diponegoro), Berkah FAJAR and Hyomin JEONG (Gyeongsang National University)

B3-3 A Study on the Flow Characteristics and Heat Transfer Augmentation on Periodically Arranged Semi-Circular Ribs in a Rectangular Channel
GyeongHwan LEE (The University of Tokyo), HyoMin JEONG (Gyeongsang National University) and Naoki SHIKAZONO (The University of Tokyo)

B3-4 Study on a CFD Simulation of the Flow Characteristics in Tube Bundle
Hyomin JEONG (Gyeongsang National University), Seongsoo KIM, Wusiman Kuerbanjiang, Sunhyeng JO and HanShik CHUNG

Room B (#502)  13:30 – 14:50
B4 Heat & Fluid 4

B4-1 Discharging Flow Behavior from Disk-Type Flow Contraction
Noriko CHIBA (Tokyo University of Marine Science and Technology), Kazuhiro KIKKAWA and Masahiro OSAKABE

B4-2 Numerical Investigation on Shell-And-Tube-Heat Exchanger with Disc-Doughnut Baffle
YongHan SHIN (Gyeongsang National University), YongChul JEON (U&S Co., Ltd.), MyoungKuk Ji (Young Jin Forging Co., Ltd.), HanShik CHUNG (Gyeongsang National University) and HyoMin JEONG

B4-3 Experimental Study of Shell Side Flow Characteristics in Shell-And-Tube LNG Vaporizer
YongHan SHIN (Gyeongsang National University), S. M. Sayeed-Bin-Asad, JG Mo, HM JEONG (The Institute of Marine Industry) and HS CHUNG

B4-4 Analysis and Attenuation of Impulsive Sound in Large Caliber Weapon During Muzzle Blast
Seung Hwa HWANG (Gyeongsang National University), Hafizur REHMAN, Hanshik CHUNG and Hyomin JEONG

Room B (#502)  15:10 – 16:30
B5 Heat & Fluid 5

B5-1 Measurements of Velocity Distribution Inside Helical-Type Seawater MHD Power Generator Using Five-Hole Pitot Tube
Minoru TAKEDA (Kobe University), Takuya YANAKA, Shigeru NISHIO, Hiroki HIROSAMI, Anh Kiet BUI and Tsukasa KIYOSHI (National Institute for Materials Science)

B5-2 Full-Scale Experiment of Heat Recovery from Diesel Engine with Circulating Fluidized Bed
Masaki ADACHI (National Maritime Research Institute), Hiroyuki MURATA, Masahide TAKAGI, Hideyuki OKA, Chiki TAKAHASHI and Kazuyoshi HARUMI

B5-3 Experimental Study of Augmentative Heat Transfer Characteristics for Combined Nanofluid of MWCNT & Al₂O₃ with Water in a Circular Tube
Yeong-geun KIM (Gyeongsang National University), Md. J. Nine, Hyun Gweon JEONG, H. S. CHUNG (The Institute of Marine Industry) and H. M. JEONG

B5-4 Study on the Behavior of the Rising Bubbles with the Direct Numerical Simulation
Shuji HIRONAKA (Kyushu University), Yuki FUJISAWA, Saki MANABE, Kenshirou OKUMURA, Gen INOUE, Yosuke MATSUKUMA and Masaki MINEMOTO
**Room C (#401)  9:30 – 10:50**  
**C2 Environmental Conservation 2**  
C2-1 Simulation of Deepwater Horizon Oil Spill Using Coupled Atmosphere-Ocean model  
Young-Jin CHOI (Kobe University), Keiko TAKAHASHI (Japan Agency for Marine-Earth Science and Technology), Akihisa ABE (Kobe University), Shigeru NISHIO and Akira SOU  
C2-2 Towards Technology Integration for Enhanced Sea Protection against Illicit Oil Pollution  
Marko PERKOVIC (University of Ljubjana), Peter VIDMAR, Stojan PETELIN and Oliver MUELLENHOFF (BMT ARGOSS)  
C2-3 An Overview and Comparison of Different Methods for Ship Weather Routing  
Shao WEI (University of Strathclyde, Glasgow) and Peilin ZHOU  
C2-4 Basic Study on the Application of the System Combined Photovoltaic Power Generation, Fuel Cell, and Gas Turbine Generator to Vessels on the Berth  
Kazuyoshi SUMI (Marine Technical College) and Toshio HIKIMA (Marine Technical Education Agency)  

**Room C (#401)  11:10 – 12:30**  
**C3 Environmental Conservation 3**  
C3-1 Flame Stability and Behaviors for Jet Diffusion Flame of Low Calorie Gas  
Hiroki HARA (Kobe City College of Technology), Ryuji TAKASHIMA, Taturo ASHIDA, Takamitsu YOSHIMOTO and Hirotugu FUJITA (Kobe University)  
C3-2 Characteristics of Combustion and Exhaust Gas in Diesel Engine by Mixing Various Gaseous Fuel  
Kosuke AMANO (Kobe City College of Technology), Satoshi NAKAZIMA, Takamitsu YOSHIMOTO and Hirotugu FUJITA (Kobe University)  
C3-3 Fuel Injection Control for Combustion Improvement of Used Vegetable Oil in Marine Diesel Engine  
Zhide XU (National Maritime Research Institute), Sumito NISHIO, Masaru IKAME, Atsuto OHASHI, Eiko ISHIMURA  
C3-4 Combustion and Exhaust Characteristics of Bio-Fuels in Marine Diesel Engine  
Sumito NISHIO (National Maritime Research Institute), Zhide XU, Masaru IKAME, Takeyuki KISHI, Magoshiro KUWABARA  

**Room C (#401)  13:30 – 14:50**  
**C4 Environmental Conservation 4**  
C4-1 Development of Diesel Particulate Filter Composed from Nonwoven Fabric Metallic Fiber Filter Applying Induction Heating  
Kohei TAKASHIMA (Tokyo University of Marine Science and Technology), Yoshihiro HATANAKA and Hiroyasu KIFUNE  
C4-2 Continuous Regeneration Characteristics of Ceramic Particulate Filter in Marine Diesel Engine Using Nonthermal Plasma-Induced Ozone Injection  
Takuya KUWAHARA (Osaka Prefecture University), Keiichiro YOSHIDA (Osaka Institute of Technology), Kenichi HANAMOTO (Daihatsu Diesel MFG. Co., Ltd.), Kazutoshi SATO, Tomoyuki KUROKI (Osaka Prefecture University), Toshiaki YAMAMOTO (Tokyo City University) and Masaaki OKUBO (Osaka Prefecture University)  
C4-3 Development and Evaluation of Electrostatic Cyclone DPF – Collection Characteristics of PM and Collection Efficiency of PM in DPF in Marine Diesel Engines  
Takayuki MOCHIZUKI (Tokyo University of Marine Science and Technology), Hidetsugu SASAKI, Tatsuro TSUKAMOTO, Munekatsu FURUGEN (FURUGEN and MAKINO Lab. Inc.), Tadashi MAKINO, Atsuto OHASHI (National Maritime Research Institute), Eiko ISHIMURA, Zhide XU and Masaru IKAME  
C4-4 Development and Evaluation of Electrostatic Cyclone DPF – Onboard and Bench Test for Collection Efficiency of PM Emission from Two-Stroke Diesel Engine –  
Hidetsugu SASAKI (Tokyo University of Marine Science and Technology), Takayuki MOCHIZUKI, Tatsuro TSUKAMOTO, Munekatsu FURUGEN (FURUGEN and MAKINO Lab. Inc.), Tadashi MAKINO, Minoru TSUDA (National Fisheries University) and Kazuyuki MAEDA
Room C (#401)  15:10 – 16:30
C5 Environmental Conservation 5
C5-1 Novel Electrohydrodynamically-Assisted Electrostatic Precipitator for Collection of Marine Engine Particulates
Toshiaki YAMAMOTO (Tokyo City University), Takahisa SAKURA, Yoshiyasu. EHARA, Akinori ZUKERAN (Kanagawa Institute of Technology) and Hitomi KAWAKAMI (Fuji Electric Systems Co., Ltd.)
C5-2 Exhaust Emission Control of Mitsubishi UE Diesel Engine
Katsumi IMANAKA (Mitsubishi Heavy Industries, Ltd.), Jun YANAGI, Akihiro MIYANAGI and Kei WATANABE
C5-3 Can Dimethyl Ether Diminish Environmental Impacts of Diesel Exhaust Particulates from Marine Diesel Oil?
Hideo OKAMURA (Kobe University), Takuya SAWAMOTO, Tomohisa DAN and Hirotsugu FUJITA
C5-4 Decrease of NOx and PM with External Mixing Triple Fluid Atomizer
Atsuyoshi TAKAYAMA (Kobe University), Kyohei YAMASHITA, Hirotsugu FUJITA and Wataru HARANO

Room D (#402)  9:30 – 10:50
D2 Future Marine Fuels & Lubricants 2
D2-1 Combustion and Emission Characteristics of Diesel Engine by Mixing DME and Marine C Heavy Fuel Oil
Younghyun RYU (Kobe University), Tomohisa DAN, Makoto MIZUKURA and Ichiro ASANO
D2-2 Counter Effect of High-Aromatic Cutter Stocks on Bunker Fuel Combustion
Atsushi TAKEDA (Nippon Yuka Kogyo Co., Ltd.), Koji TAKASAKI (Kyushu University), Daniel STRUCKMEIER (MAN Diesel & Turbo SE) and Shinji BABA (Hitachi Zosen Corporation)
D2-3 Combustion Characteristics of Water Emulsified Jatropha Curcas Oil in Variation of Water Droplet Distribution
Kosuke SHIKIMI (Kobe University), Tomohisa DAN, Ichiro ASANO and Masataka HASHIMOTO
D2-4 Study on Combustion and Emission Characteristics of Fatty Acid Methyl Ester Mixed with Diesel Oil
Yuya TANAKA (Tokai University), Cheng WANG and Akihiko AZETSU

Room D (#402)  11:10 – 12:30
D3 Future Marine Fuels & Lubricants 3
D3-1 Lubricity Test for Low Sulphur Fuels
Senichi SASAKI (Nippon Kaiji Kyokai)
D3-2 Ashfree Basicity – Moving beyond Base Number in the Formulation of Tomorrow’s Marine Cylinder Lubricants
Denis LANCON (TOTAL Raffinage Marketing) and Valérie DOYEN
D3-3 The Performance Retention Concept: An Inescapable Way of Evaluating Marine Cylinder Lubricant
Valérie DOYEN (TOTAL Raffinage Marketing) and Denis LANCON
D3-4 Fuel Economy – The New Challenge for Trunk Piston Engine Oils
Catherine AMBLARD (TOTAL Raffinage Marketing) and Denis LANCON

Room D (#402)  13:30 – 14:30
D4 Future Marine Fuels & Lubricants 4
D4-1 Laboratory Performance Comparison Tests and Analyses of On-Board Marine Cylinder Oils
Kobune GOTO (NYK Line), Hideaki NOMURA, Wataru NISHIO, Hideki SUEKI (Nippon Yuka Kogyo Co., Ltd.), Ken MOCHIZUKI, Atsushi TAKEDA, Shinichiro UMEMOTO and Haruo MIYANO
D4-2 Environmentally Responsible Lubrications
Jonathan PEARCE (Castrol Marine) and Susannah LININGTON
D4-3 Optimising Total Cost of Ownership by Optimising Lubrication and Overhaul Intervals on MAN B&W Engines
Henrik ROLSTED (MAN Diesel & Turbo), Athanassios SALOUPAS (COSTAMARE SHIPPING COMPANY) and Dimitris TSALAPATIS
Room D (#402)  15:10 – 16:30
D5 Materials 1
D5-1 Surface Fatigue Crack Growth Behavior of SWRH42A Steel Wire in 3.5% NaCl Solution under Cathodic over Protection
Shin-ichi MOTODA (Tokyo University of Marine Science and Technology), Kei-ichi ASAKAWA, Hiroshi TABATA and Yohnosuke SUZUKI
D5-2 Fracture Toughness Evaluation of Mixed-Type Adhesive Material for LNG Ship Tank
Toshihisa NISHIOKA (Kobe University), Kyuchun CHO and Hoyeon LEE
D5-3 The Questionnaire Survey about the Bolt Tightening Management in Ship Machinery Maintenance
Hiromasa IKAWA (Kobe University), Takashi MIWA (Toyama National College of Technology) and Ryuichi KIMURA (Kobe University)
D5-4 Study on Brittle Fracture of Cast Iron Induced by Thermal Stress
Kenji IKENISHI (Marine Technical College), Toshihisa NISHIOKA (Kobe University), Takehiro FUJIMOTO, Yuito KOMARU and Hideto TSURU (Yuge National College of Maritime Technology)

Technical Sessions
October 20th (Thursday)

Room A (#501)  9:30 – 10:50
A6 Future Engine 6
A6-1 New Technologies of Mitsubishi Turbochargers towards Saving Energy
Yoshikazu ITO (Mitsubishi Heavy Industries, Ltd.), Keiichi SHIRAISHI and Yoshihisa ONO
A6-2 Fundamental Study on Collection of Waste Heat Energy using Thermoelectric Module
Toru SEKIYA (Kobe University), Kouji TANISHO, Keisuke SHINOHARA, Makoto UCHIDA and Daiichi ABURAGI
A6-3 New Technology for Waste Heat Recovery System
Masayuki KAWAMI (Mitsubishi Heavy Industries, Ltd.), Yoshihiro ICHIKI and Takayuki KANABOSHI
A6-4 A study of Marine Waste Heat Recovery System used Reciprocating Steam Expander with Rankine Cycle
Yasuhisa ICHIKAWA (National Maritime Research Institute), Koichi HIRATA, Yoichi NIKI, Shota OASHI and Sadatomo KURIBAYASHI (Kuribayashi Steamship Co., Ltd.)

Room A (#501)  11:10 – 12:10
A7 Future Engine 7
A7-1 Newly Developed Environmentally Friendly Diesel Engines: 6DE-18 & 6DE-23
Takashi OKAUCHI (Daihatsu Diesel MFG. Co., Ltd.), Kazutoshi SATO, Shinichiro OGURA, Masato HORIKAWA and Junya ASANO
A7-2 Introduction of the New Type Medium Speed Marine Diesel Engine 6EY22
Seita Akimoto (YANMAR Co., Ltd.), Kazuharu TAKEMURA, Shunji HAMAOKA and Hiroki TANAKA
A7-3 Development of Medium Speed EUP Electronically-Controlled Diesel Engines
Takashi SAEKI (YANMAR Co., Ltd.), Kazuhiro KITAGAWA and Yasuyuki TAKAHATA

Room A (#501)  13:30 – 14:50
A8 Advanced Propulsion 1
A8-1 Application of Energy-Efficiency Technologies Featuring the Mitsubishi Air-Lubrication System
Taichi TANAKA (Mitsubishi Heavy Industries, Ltd.)
A8-2 Effects of Water Jet on Aerodynamic Performance of a Highly Loaded Compressor Cascade
Jie WANG (Harbin Engineering University), Qun ZHENG, Guoqiang YUE, Bing JIANG and Ruibao LIU
A8-3 Development of IHIMU “e”- Twin Engine with CRP System
Kenji GOTO (IHI Marine United Inc.) and Akira TANOUYE
A8-4 Excitation Load Estimation Factors for Polar Class Vessel Propulsion Shafting System
Ronald D. BARRO (Mokpo National Maritime University) and Don Chool LEE

Room A (#501)  15:10 – 16:10
A9 Advanced Propulsion 2
A9-1 A Study on the Subsurface Strength of Marine Bevel Gears
Yuzhong SONG (Nippon Kaiji Kyokai) and Senichi SASAKI
A9-2 Influence of Propeller Force to Shaft Alignment
Takeo UI (Kawasaki Heavy Industries)
A9-3 Global Optimization Algorithm on the Design of Propulsion Shafting Alignment for High Speed Craft
Shuei-Wang JUANG (National Taiwan Ocean University), Ming-Hsiung CHANG and Jung-Chen HUANG

Room B (#502)  9:30 – 10:50
B6 Robotics, Automation & Information 1
B6-1 Tracking Control of AUV "MR-X1"
Ryo SUGIMOTO (Tokyo University of Marine Science and Technology), Makoto NAGAYAMA, Etsuro SHIMIZU and Masanori ITO
B6-2 Development of Module-Composite Underwater Vehicle
Masayoshi OZAWA (Tokyo University of Marine Science and Technology) and Etsuro SHIMIZU
B6-3 Cruising System for Four-Legged Underwater Robot
Takashi TAKESHIMA (Tokyo University of Marine Science and Technology), Etsuro SHIMIZU and Masanori ITO
B6-4 Reverse Folding in Origami Manipulation by Robot Hand
Chenbo ZHANG (Tokyo University of Marine Science and Technology), Etsuro SHIMIZU and Masayoshi OZAWA

Room B (#502)  11:10 – 12:10
B7 Robotics, Automation & Information 2
B7-1 An Iterative Learning Control Approach for Tuning PID Parameters in Vibration Isolator
Dang-Khanh LE (Mokpo National Maritime University), Taek-Kun NAM and Duy-Son TONG (Gwangju Institute of Science and Technology)
B7-2 A Study on the Control Schemes of Vibration Isolators
Taek-Kun NAM (Mokpo National Maritime University), Jin-Man KIM and Young-Oh ROH
B7-3 Grinding Characteristic of MWCNT by Using Planetary Ball Mill Unit
Yeonggeun KIM (Gyeongsang National University), Munkhbayar Batmunkh, Hanshik CHUNG and Hyomin JEONG

Room B (#502)  13:30 – 14:50
B8 Robotics, Automation & Information 3
B8-1 The Study for the Error Reduction of the Compact-Size INS to Apply an Underwater Vehicle
Shojiro ISHIBASHI (Japan Agency for Marine-Earth Science and Technology)
B8-2 Analyzing the Influence of Vibration to a Stereo Camera System Set-Up on Board Ship
Gazi KOCAK (Kobe University), Shigehiro YAMAMOTO and Takeshi HASHIMOTO (Shizuoka University)
B8-3 Importance of Team-Minds Producing for Marine Engineers
Koichi KONDO (Marine Technical College) and Toshihiko OKINO
B8-4 Water Quality Control of Auxiliary Boilers of Recent Oceangoing Ships - For Log Sheet Review and Standardization of Water Analysis-
Yoshiharu IATMI (Marine Technical College) and Eiichi NISHIKAWA (Professor Emeritus of Kobe University of Mercantile Marine)
Room C (#401)  9:30 – 10:50
C6 Environmental Conservation 6
C6-1 Comparison of the NOx Reduction Performance of SCR Installed on Diesel Engine and the Estimated Performance from Catalyst Test Using Micro-Reactors
Yoichi NIKI (National Maritime Research Institute), Koichi HIRATA, Takeyuki KISHI, Yasuhsa ICHIKAWA and Shota OHASHI
C6-2 NOx Reduction Performances of Marine SCR System
Yuji WAKATSUKI (Mitsubishi Heavy Industries, Ltd.) and Keisuke MIZAWA (Akasaka Diesels Limited)
C6-3 Development of a Nitrogen-Enrichment / Humidificaiton Membrane System for NOx Emission Reduction for Marine Diesel Engines
Hirokazu OHNO (Asahi Kasei Chemicals Corporation), Youske KOIZUMI, Tomohiro NIIHAMA, Atsushi SHIMIZU, Masahiro TSUKAMOTO (Asahi Kasei Engineering Corporation), Kazuyuki MAEDA (National Fisheries University) and Dai YAMANISHI
C6-4 80% Decrease of NOx Emission by Effective Combination of Density of Oxygen and Amount of Moisture in Suction Air
Kazuyuki MAEDA (National Fisheries University), Dai YAMANISHI, Atsushi SHIMIZU (Asahi Kasei Chemicals Corporation) and Hirokazu OHNO

Room C (#401)  11:10 – 12:30
C7 Pollution Free 1
C7-1 Experimental Challenge of On-Board Water Emulsified Fuel System
Masanori HIGASHIDA (Kawasaki Heavy Industries, Ltd.), Kenji NAGAMACHI and Shuji TOYODA (Kawasaki Kisen Kaisha, Ltd.)
C7-2 Effects of Oxygen Dilution of Charged Air on Combustion and NOx Emission of Low-Speed Diesel Engines
Hiroshi TAJIMA (Kyushu University), Satoshi KAWAUCHI (National Maritime Research Institute), Haruhiko AOYAGI (Kyushu University) and Naohiko KIMURA
C7-3 Tier III EGR for Large 2-Stroke MAN B&W Diesel Engines
Johan KALTOFT (MAN Diesel & Turbo)
C7-4 Experimental and Numerical Study on Spray Combustion Applying High Injection Pressure by EFI
Kousuke OKAZAKI (Kyushu University), Koji TAKASAKI and Yusuke ABUMIYA

Room D (#402)  9:30 – 10:30
D6 Tribology 1
D6-1 Tribological Properties of a New Lead-Free Material for Low Speed Two-Stroke Diesel Engines
Takashi ANDO (Daido Metal Corporation), Naohisa KAWAKAMI, Weixing ZHONG, Motohira YAMADA and Motoki INAZUMI (Mitsui Engineering & Shipbuilding Corporation, Ltd.)
D6-2 Study of the Effects of Surface Texturing on Reciprocating Lubricated Surfaces -Relation between Oil Film Thickness and Electrical Contact Resistance-
Tatsuhiro JIBIKI (Tokyo University of Marine Science and Technology), Yoshihiro KOBAYASHI, Takafulmi IKKI and Masayuki SHIMA
D6-3  Stress Distribution of Coated Film under TEHL
Goh TOMITAKA (Tokyo University of Marine Science and Technology), Toshikazu FUJINO (Nagaoka University of Technology), Katsumi IWAMOTO (Tokyo University of Marine Science and Technology), Kentaro TANAKA and Masaki ODA
**Room D (402) 11:10 – 12:10**  
**D7 Tribology 2**

D7-1 Wear Characteristics on Cermet Coatings under High Temperature  
Shunsuke HATTORI (Tokyo University of Marine Science and Technology), Katsumi IWAMOTO and Kentaro TANAKA

D7-2 Improvement of Friction Characteristics on Reciprocating Machinery  
Shunsuke HATTORI (Tokyo University of Marine Science and Technology), Masaki ODA, Katsumi IWAMOTO, Kentaro TANAKA, Kazuo TOYAMA and Toshikazu FUJINO (Nagaoka University of Technology)

D7-3 A Study of Cylinder Lubrication Improvement in Large Bore Low-Speed Marine Diesel Engines Based on Piston-running Behavior Monitoring  
Yoshiyuki SAITO (IHI Corporation), Takeshi YAMADA and Yoshiyuki UMEMOTO (Diesel United, Ltd.)

**Room D (402) 13:30 – 14:30**  
**D8 Safety Systems 1**

D8-1 International Global System - Sea Safety System (IGS SSS) - System of Sea Safety of the Future  
Eduard A. AFRAMEEV (Organizing Committee of IGS SSS), Yasushi YOSHIDA (Honorable Professor of Technical University of Varna) and Vladimir M. KISELEV (St. Marine Technical University)

D8-2 Fault-Tree Analysis Model of Tanker Accidents for Formal Safety Assessment (FSA) in the Malacca Straits Based on AIS Data  
Muhammad Badrus Zaman (Kobe University), Eiichi KOBAYASHI, Nobukazu WAKABAYASHI, Adi Maimun (Universiti Teknologi Malaysia) and Trika Pitana (Institut Teknologi Sepuluh Nopember)

D8-3 Study on Improvement of Marine Engine Safety Management Based on Analysis of Failure and Damage Data  
Haruyuki HYONO (Kobe University), Masakazu ANAN, Makoto UCHIDA and Toshio HIKIMA (Marine Technical College)

**Room D (402) 15:10 – 16:10**  
**D9 Safety Systems 2**

D9-1 The Bolt Fastening Check for Marine Diesel Engines Using Multivariate Analyses by Frequency Variable  
Takashi MIWA (Toyama National College of Technology), Hiromasa IKAWA (Kobe University), and Ryuichi KIMURA

D9-2 Risk Prioritization of Ship Machinery System Using Analytical Hierarchy Process (AHP) Method  
Dhimas Widhi HANDANI (Kobe University), Kenji ISHIDA, Shintaro NISHIMURA and Surya HARIYANTO

D9-3 Estimation of Pipeline Accident Probability Caused by Ship Sinking Using AIS  
Yeyes MULYADI (Kobe University), Eiichi KOBAYASHI, Nobukazu WAKABAYASHI, Muhammad Badrus Zaman, Trika Pitana (Institut Teknologi Sepuluh Nopember) and Wahyudi