



**THE JAPAN SOCIETY OF NAVAL ARCHITECTS
AND OCEAN ENGINEERS**

2-12-9 SHIBA-DAIMON MINATO-KU TOKYO 105-0012, JAPAN
Tel: +81-3-3438-2014, Fax: +81-3-3438-2016
E-mail: office@jasnaoe.or.jp

First World NAOE Forum

Technical Challenges for Ship Energy Efficiency toward 2020

25 November 2011, 9:00 – 18:00

Senri Hankyu Hotel, Osaka, Japan

Organized by the Japan Society of Naval Architects and Ocean Engineers



Sponsored by the Nippon Foundation

In the marine industry, energy efficiency has continued to improve since the 1970 oil crisis through advancements in shipbuilding and cooperation among the ship-machinery industry, academia, and research institutes. However, further technical improvements are necessary to address global environmental issues. World maritime clusters need to cooperate to achieve emissions reductions from marine transportation.

To address this challenge, the Japan Society of Naval Architects and Ocean Engineers (JASNAOE) has organized the first World NAOE Forum. This forum will be sponsored by the Nippon Foundation and aims to encourage discussions with global leaders about the direction of future research and development in the marine industry.

At this year's forum, ship energy efficiency and environmental impact mitigation technologies for the year 2020 are on the agenda. By 2020, we estimate that the improvement of current technologies will approach their theoretical limit and other innovative ideas will be necessary for further breakthroughs. We will discuss the limits of current technologies and the possibilities for innovation.

Three main areas have been selected for the forum, and leading researchers and practitioners from abroad and Japan will make presentations and participate in discussions with participants in each area.

In the "Design" area, ship propulsion efficiency will be discussed. Possible topics could include the following:

- Limitation of efficiency of conventional hull forms and propulsors, and new hull and propulsor concepts, such as those using twin skegs and pods.
- Air lubrication and new technologies for deep-draft ships.
- High performance propulsion systems in rough seas.



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In the “Power Plant” area, power plants for ship propulsion will be discussed. Possible topics could include the following:

- Limitations of diesel plant and waste heat recovery.
- Fuel extraction from petroleum refinery process.
- New energy and other power plant possibilities.

In the “Service Performance” area, a ship’s operating performance will be discussed. Possible topics could include the following:

- Energy-efficient ship operation and issues for optimal ship operation.
- Limitations of current measurement technologies of ship performance and necessary new technologies.
- Cooperation between shipbuilders and shipping companies on continual improvement of ship design and operations.

Yoshiaki Sezaki
Vice President, JASNAOE
Steering Committee Chairman

Yasuo Tanaka
Director, JASNAOE
Steering Committee Vice Chairman



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Program

- 9:00 – 9:30 Registration and welcome
9:30 – 9:35 Opening address
Mr. Yoshiaki Sezaki, Vice President, JASNAOE
9:35 – 9:55 Keynote speech
Mr. Koichi Kato, Ministry of Land, Infrastructure, Transport and Tourism
9:55 – 11:40 **Ship Design**
Moderator; Prof. Yasuyuki Toda, Osaka University
Speaker;
Dr. Mun-Keun Ha, Samsung Heavy Industries
“Development of the Green Future Suezmax COT”
Dr. Noriyuki Sasaki, National Maritime Research Institute
“ZEUS Project of NMRI”
Mr. Taichi Tanaka, Mitsubishi Heavy Industries
“Green-Technologies Featuring the Mitsubishi Air-Lubrication System”
11:40 – 12:00 Poster presentation
12:00 – 13:30 Lunch break
13:30 – 15:15 **Power Plant**
Moderator; Mr. Yasuhiro Itoh, Niigata Power Systems
Speaker;
Mr. Oskar Levander, Wartsila
“Machinery Optimization for the Next Generation of Ships”
Mr. Ichiro Tanaka, Mitsui Engineering & Shipbuilding
“Environmentally-friendly Engine for Future Ships”
Prof. Koji Takasaki, Kyushu University
“Conversion of Current Marine Fuel to What?”
15:15 – 15:45 Coffee break
15:45 – 17:30 **Service Performance**
Moderator; Prof. Masashi Kashiwagi, Osaka University
Speaker;
Mr. Henk van den Boom, MARIN
“Improving Performance of Ships in Service”
Capt. Masao Nakaya, NYK Line
“Environmental Ship Operation and Emission Control”
Dr. Koichiro Matsumoto, Universal Shipbuilding Corporation
“Sea-Navi®; An Optimum Routing System”
17:30 – 17:35 Closing address
Mr. Yasuo Tanaka, Director, JASNAOE
18:00 – 20:00 Forum banquet

Language

The language for the forum is English. No translation services will be available.



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Supporting Organizations

Nippon Kaiji Kyokai, Lloyd's Register, American Bureau of Shipping, Bureau Veritas, Det Norske Veritas, Germanischer Lloyd's

Place

Senri Hankyu Hotel

Address: 2-1-D-1, Shinsenri Higashimachi, Toyonaka City, Osaka 560-0082, Japan

TEL: +81-6-6872-2211 FAX +81-6-6832-2161

Web: <http://www.hankyu-hotel.com/hotel/senrihh/>

Steering committee

Yoshiaki Sezaki (Vice President of JASNAOE, Universal Shipbuilding Corporation)

Yasuo Tanaka (Director of JASNAOE, NYK Line)

Hideyuki Ando (MTI)

Masahiko Fujikubo (Osaka University)

Toichi Fukasawa (Director of JASNAOE, Osaka Prefecture University)

Kunihiro Hamada (Hiroshima University)

Munehiko Minoura (Osaka University)

Koji Otsuka (Osaka Prefecture University)

Takeshi Shinoda (Kyushu University)

Kei Tanaka (Daihatsu Diesel)

Registration

The registration fees shown below include proceedings, forum banquet and coffees.

Prior to 11 November: JP¥10,000, Full: JP¥12,000, Student: JP¥3,000

Please register from JASNAOE homepage for participation.

URL: http://www.jasnaoe.or.jp/en/conference/meetings_o.html

Poster contest

Please refer JASNAOE homepage (www.jasnaoe.or.jp/en/) for detail information of the poster contest.

Application due date: 24 October 2011

Submission due date: 4 November 2011

Contact information

Address: 2-12-9, Shiba-Daimon, Minato-Ku, Tokyo, 105-0012, Japan

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