



The 8th East Asian Workshop for Marine Environment and Energy

October 12-14, 2017

Seogwipo KAL Hotel, Jeju, Republic of Korea

Organized by

East Asian Network for Marine Environment and Energy (EAMEN²)

The Korean Society for Marine Environment and Energy (KOSMEE)

Japan Society of Naval Architects and Ocean Engineers (JSNAOE)

Ocean Energy Association Japan (OEAJ)

Ocean Renewable Energy Academic Committee of Chinese Renewable Energy Society
(OREAC, CRES)

Taiwan Society of Ocean Engineering (TSOE)

Hosted by

The Korean Society for Marine Environment and Energy

Workshop Organization

The objective of The 8th East Asia Workshop for Marine Environment and Energy (EAWOMEN²) to be held in Jeju, Republic of Korea (Oct. 12-14,2017) is to provide a forum for East Asian researchers, engineers, and students to exchange their new ideas and to introduce their latest activities in the field of the marine environmental & energy engineering and management.

The workshop was originally organized by the Korean Society for Marine Environment and Energy (KOSMEE) & the Research Committee on Marine Environment, Society of Naval Architects of Japan (MEC-SNAJ) in 2003. In 2005, Taiwan attended the workshop, which was extended by East Asian Workshop for Marine Environments (EAWOMEN). In 2009, the workshop was extended to four parties by China's attendance. Name of the network was changed to EAMEN² for covering marine energy at the 5th EAWOMEN² held in Japan, 6th in China, 7th in Taiwan, respectively. This workshop has been held every 2 years and the coming 8th EAWOMEN² will be held in Jeju, Republic of Korea. Additionally, this workshop has a session at the IEEE/MTS Oceans-Asia Conference like at OCEANS'06 Singapore, OCEANS'08 Kobe, OCEANS'10 Sydney and OCEANS'12 Yeosu. OCEANS'14 Taipei, OCEANS'16 Shanghai, respectively.

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Mr. Sangwoo Oh (Korea Research Institute of Ships & Ocean Engineering, Secretariat)

Ms. Sun-Ok Kang (KOSMEE, Secretariat)

EAWOMEN² Schedule

Date(Day)	Time	Program		etc
Oct.11(Wed)	18:00~20:00	KOSMEE Reception		IOC members of EWOMEN ²
Oct.12(Thu)	12:00~13:00	Lunch / IOC & LOC meeting		B1 / DYNASTY ROOM
	13:00~14:00	Registration		B1 / RECEPTION DESK
	14:00~14:20	Opening Ceremony		B1 / DIAMOND ROOM
	14:20~16:00	Keynote Speech		B1 / DIAMOND ROOM
	16:00~16:20	Photo Session & Coffee Break		
	16:20~18:00	Session AB		B1 / DIAMOND ROOM
	18:00~20:00	Welcoming Reception		1 st floor / CRYSTAL
Oct.13(Fri)	09:00~10:20	Session A-I	Session B-I	A-I : B1 / ROSE B-1: B1 / CAMELLIA
	10:20~10:40	Coffee Break		
	10:40~12:00	Session A-II	Session B-II	A-II : B1 / ROSE B-II : B1 / CAMELLIA
	12:00~13:30	Lunch		1 st floor / CRYSTAL
	13:30~15:10	Session A-III	Session B-III	A-III : B1 / ROSE B-III : B1 / CAMELLIA
	15:10~16:00	Poster Session & Coffee Break		
	16:00~17:20	Session A-IV	Session A-V	A-IV : B1 / ROSE A-V : B1 / CAMELLIA
	17:20	Closing Session		B1 / DIAMOND ROOM
Oct.14(Sat)	09:00~16:00	Technical Tour & City tour		Only for applicants (within 45 people)

※ 20 min presentation including 5 min Q&A for each presenter

※ Technical tour to Yongsu Wave Power Plant and City tour to Sangumburi & Jusanjeolli

**The 8th East Asia Workshop for Marine Environment and Energy
(EAWOMEN²)**

October 12-14, 2017, Seogwipo KAL Hotel, Jeju, Republic of Korea

October 11 (Wednesday)

18:00 – 20:00 KOSMEE Reception (only for IOC members of EWOMEN²)

October 12 (Thursday)

12:00 - 13:00 IOC & LOC Meeting (including Lunch)

13:00 - 14:00 Registration

14:00 - 14:20 Opening Ceremony

- Opening Speech: Prof. Hongda Shi, EAMEN² Chair
- Welcoming Speech: Dr. Keyyong Hong, President, KOSMEE

14:20 - 16:00

- Keynote Speech** (chair: Moon Ock Lee & Daisuke Kitazawa)
- OWC-Impulse Turbine System of Yongsoo Wave Power Plant
(Beom Soo Hyun, Gilwon Kim, Keyyong Hong)
- Present state and future challenge of tidal current power generation in Japan
(Yusaku Kyojuka)
- How Long Will the Challenges Challenge Us (Hongda Shi)
- Study on the Procedure of Environmental Seaside Analysis in Mid-Taiwan
(Chih-Chung Wen, Yong-Jun Lin, Shu-Huei Jhang)

16:00 - 16:20 Photo Session & Coffee Break

16:20 - 18:00 **Session AB** (chair: Zhen Liu & Dong-Jiing Doong)

- Mitigating Effects on Wind Loads due to Windshield around Container Ships Using CFD Simulation
(Jae-Yeong Choi , Gyu-Mok Jeon, Jong-Chun Park, Myung-Soo Shin)
- Experimental Study of hydrogen fermentation of waste marine biomass
(Kana Kuroda, Koji Otsuka)
- An assessment of the thermal energy of the Yellow Sea Cold Water Mass
(Huaming Yu, Kaidi Wang, Haiqing Yu, Xianwen Bao, Shin-ichi Ito, *Xin Qi*)
- Ensemble-Based Data Assimilation for Regional and Operational Wave Forecasting Application
(Yang-Ming Fan, Leng-Hsuan Tseng, Dong-Jiing Doong, Jia-Ming Chen, Ching-Jer Huang)

18:00 - 20:00 Welcoming Reception

October 13 (Friday)

09:00 - 10:20

Session A-I (B1 Floor / ROSE ROOM)

Chair: Weon Cheol Koo & Yang-Ming Fan

- Numerical study for mooring system of the floating wave energy converter in deep water with a large sloping bottom
(Shuo Huang, Songwei Sheng, Yage You)
- Control of hydraulic Power-Take-Off of wave energy converter
(Yasutaka Imai, Shuichi Nagata, Tengen Murakami)
- Numerical modelling of the multi-axis wave energy converter array with regular and irregular waves
(Ming Tan , Dahai Zhang, Wei Li, Yulin Si, Hongwei Liu, Yonggang Lin, Haigang Gu)
- Study on Hydraulic System Efficiency of a heaving-buoy Wave Energy Converter
(Hongda Shi, Chenyu Zhao, Zhen Liu, Feifei Cao)

Session B-I (B1 Floor / CAMELLIA ROOM)

Chair: Dezhi Ning & Jong-Kyu Kim

- Investigation of sustainable fishery of anchovy using exergy analysis
(Takako Yamazaki, Fumitaka Nishikawa, Koji Otsuka, Naoki Nakatani, Kana Kuroda)
- Transition and Prospect of Artificial Reefs (ARs) Research in the World
(Moon Ock Lee, Shinya Otake, Jong Kyu Kim)
- Development of the Method to Objectively Select Environmental Factors Used for Optimal Transformations Method for Grasp the Population Dynamics of Fish in Coastal Area
(Iori Masuda, Naoki Nakatani, Yuqiong Qin)
- Rationalization of fishing efforts in Ise Bay by mathematical approach
(Hiroaki Muto, Rio Harada, Shigeru Tabeta, Yoshiharu Nakamura)

10:20 - 10:40

Coffee Break

10:40 - 12:00

Session A-II (B1 Floor / ROSE ROOM)

Chair : Shuo Huang & Naoki Nakatani

- Two-Dimensional Numerical Simulation of Wave Overtopping Behavior on the Adaptive Multi-Stage OWECs
(Sirirat Jungrungruentaworn, Beom Soo Hyun)
- Study on Size estimation and Performance evaluation of 30kW Impulse Turbine for OWC Wave Energy Converter
(Gilwon Kim, Keyyong Hong, Kyong-Hwan Kim)

- Cross-sectional shape design of OWC chamber of wave energy converter applicable to breakwater
(Jeong-Seok Kim, Bowoo Nam, Kyong-Hwan Kim, Keyyong Hong)
- Nonlinear influences on wave dynamics and hydrodynamic efficiency of an OWC device
(Dezhi Ning, Rongquan Wang, Chongwei Zhang, Bin Chen)

Session B-II (B1 Floor / CAMELLIA ROOM)

Chair : Hiroyuki Oyama & Jeong-Hwan Oh

- Modeling of CO₂ hydrate formation for sub-seabed CO₂ storage : From lab-scale to reservoir-scale
(Georgios Fytianos, Hiroyuki Oyama, Toru Sato)
- Prediction of the influence of climate change on overturn in Lake Biwa for risk assessment
(Takero Yoshida, Daisuke Kitazawa , Kentaro Kikuchi, Hideya Kubo, Kohei Yoshiyama)
- Combined effects of climate change and eutrophication on the environment in Lake Ikeda
(Daisuke Kitazawa, Takero Yoshida)
- Investigation of mud and floc erosion in turbidite layers
(Hiroyuki Oyama, Tomoya Ogino, Georgios Fytianos, Toru Sato)

12:00 - 13:30

Lunch

13:30 - 15:10

Session A-III (B1 Floor / ROSE ROOM)

Chair : Takero Yoshida & Jong-Chun Park

- Assessment of Vertical Motion Reduction of a Floater due to Interaction between Floating and Submerged Bodies
(Min-Jae Shin, WeonCheol Koo, Sung-Jae Kim)
- A Numerical Procedure for Hydrodynamic Response Analysis of Slender-body-type Ocean Energy Structures
(Sanghwan Heo, WeonCheol Koo, Min-Su Park)
- Numerical Investigation of Vertical-Axis Tidal Turbine with Sinusoidal Pitching Blades (Bing Chen, Shaoshuai Su, Ignazio M Viola, Clive A Greated)
- Theoretical Analysis of a Multi-freedom Buoy Wave Energy Device
(Hongda Shi , Shuting Huang)
- A parametric study of Edinburgh Duck wave energy converter in the western sea of Jeju island (Sunny Kumar Poguluri, Yoon Hyeok Bae)

Session B-III (B1 Floor / CAMELLIA ROOM)

Chair : Hiroyuki Oyama & Jin-Hak Yi

- CFD Estimation of Pressure Impact Loading on a WIG Ship Ditching in Waves (Gyu-Mok Jeon, Jong-Chun Park, Rae-Dae Jang, Se-Min Jeong)
- Numerical Simulation of Nonlinear Spatial Evolution of Progressive Waves Using a Numerical Wave Tank (Eun-Hong Min, Weoncheol Koo)
- Simulation on the Coastal Freak Wave Occurrence using SPH Approach (Ying-Chih Chen, Dong-Jiing Doong, Da-Wei Chen)
- An Improved Wind-Wave and Swell Separation Method (Yu-Chen Lee, Dong-Jiing Doong)

15:10 - 16:00 Poster Session & Coffee Break

16:00 - 17:20 **Session A-IV (B1 Floor / ROSE ROOM)**

Chair : Kana Kuroda & Yoon Hyeok Bae

- CFD simulation on Vortex-Induced Motions of Spar platform considering Sheared current effect (Dae-Kyung Ock, Jong-Chun Park, Se-Min Jeong, Young-Chan Park)
- Multi-Physics Analysis of Vibration Isolated Pool System for Storage of Nuclear Spent-Fuel Assemblies (Soh-Myung Chung, Jong-Chun Park)
- Numerical study on the performance of twin-turbine system (Zhen LIU, Heng-Liang Qu)
- Development of a Lightweight Light-Buoy Combined with 7 Nautical Mile Self-contained Lantern (Se-Min Jeong, Seong-Soo Jeong, Jae-Hyoung Yang)

Session A-V (B1 Floor / CAMELLIA ROOM)

Chair : Bing Chen & Se-Min Jeong

- Parametric Study on Energy Production of Tidal Farms in Uldolmok, South Korea (Manh Hung Nguyen, Haechang Jeong, Changjo Yang)
- Sustainability Evaluation for Biodiesel Fuel Production and Utilization in Northern Vietnam (Keito Nakagawa, Tu Anh Nguyen, Koji Otsuka)
- A Preliminary Study on Storm Surge Estimation Along Tokyo Bay Based on A Stochastic Approach (Rikito Hisamatsu, Sooyoul Kim, Shigeru Tabeta)
- Numerical evaluations of resonance effects in an open-type circular caissons under wave actions (Da-Wei Chen, Jiahn-Hong Chen)

17:20 Closing Session

October 14 (Saturday)

09:00 – 16:00 Technical Tour (Yongsu Wave Power Plant) & City Tour (Sangumburi & Jusanjeolli)

Poster

- Distribution, Source Identifying and Risk Assessment of Polycyclic Aromatic Hydrocarbons(PAHs) in Sediments After an Oil Spill Accident: A Case of Gwangyang Bay and Yeosu Channel, Korea
(Nguyen Hoang Lam, Byunggyu Min, Huiho Jeong, Hyeonji Jeong, Mai Duc Hung, Hyeonse Cho)
- A Numerical Study of the Dynamic Behavior of an Eccentric Cylindrical Wave Energy Converter using OpenFOAM
(Haeng Sik Ko, Yoon Hyeok Bae, Il-Hyoung Cho)
- Understanding of Floating Marine Litter Distribution in the NOWPAP Region (Siyeon Lee, Seong-Gil Kang, Jeong-Hwan Oh, Jeong-Yoon Lee, Narae Yoon, Yong Hoon Kim, Young Gyu Park)
- The Status of Oiled Wildlife Preparedness and Response in the NOWPAP Region (Jeong-Yoon Lee, Seong-Gil Kang, Jeong-Hwan Oh, Siyeon Lee, Narae Yoon)
- Marine Oil Spill Risk Assessment in Korea
(Choong-ki Kim, Jeong-Hwan Oh, Jeemin Lee, Hyun Jung Hong, Joungyoon Chun)
- Numerical analysis on scouring around suction bucket foundation
(Seongjin Song, Sunho Park, Tae-Hwan Joung, Yunsup Shin)
- Simulation of coastal flooding during a typhoon event with the consideration of future sea-level rises (Shu-Huei Jhang, Chih-Chung Wen, Dong-Jiing Doong, Cheng-Han Tsai)
- Beach Observations using Quadcopter Imagery
(Yi-Chung Yang, Shih-Peng Chiang, Hsing-Yu Wang, Hui-Ming Fang, Sung-Shan Hsiao, Cheng-Han Tsai)
- Ocean Current Observation in Taiwan Strait from Taima-Star Ferry
(Hsien-Wen Chen, Cho-Teng Liu, Takeshi Matsuno, Kaoru Ichikawa, Ken-ichi Fukudome, Yih Yang, Dong-Jiing Doong, Wei-Ling Tasi, Ying-Chih Chen)
- Field Observation on the Sea States in East Asia Pacific in the past 20 years
(Leng-Hsuan Tseng, Dong-Jiing Doong, Ching-Jer Huang, Li-Chung Wu, Yang-Ming Fan)

The size of poster is recommended to 70 cm (in width) x 120 cm (in height). **The original poster should be brought by authors when they participate at the workshop.**

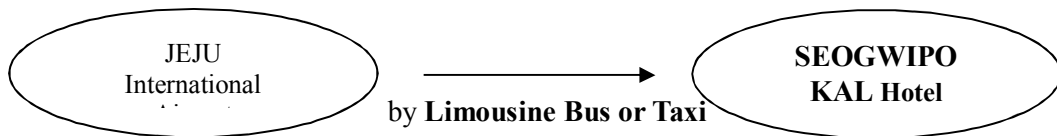
Logistic Information (JEJU International Airport to the SEOGWIPO KAL Hotel)

1) Map of the SEOGWIPO KAL Hotel



- **Venue : Seogwipo KAL Hotel / <http://www.kalhotel.co.kr/en/seogwipo>**
- **Address : 242 Chilsipri-ro, Seogwipo City, Jeju Special Self-Governing Province, Korea (486-3, Topyeong-dong, Seogwipo-si, Jeju-do, Korea)**
- **Tel : +82-64-733-2001**

2) Transportation Information



- **By Limousine Bus (Number : 600)**
: If you exit through **Gate 5** and go right for 10M, you will be at the limousine platform. Then Please get on **Limousine Bus 600**. The bus will via about 17 stops before arriving at the SEOGWIPO KAL Hotel which is the last stop.

Operation Hour	6:20 am ~ 10:00 pm (runs every 15~20 minutes)
Route	Jeju Intl. Airport → Seogwipo Port → Seogwipo KAL Hotel
Fee	Adult ₩5,500 / Student ₩4,000 / Child ₩2,500
Travelling Time	80 minutes

※ Tourist information and rental car service available at the Lobby(1F)

- **By taxi**
: If you exit through **Gate 3** and cross the crosswalk, you will be at the taxi stand. It will take **50mins** from the airport to the hotel. The fee is about **KRW 40,000**

Registration Fee: Member (200,000 KRW), Student (50,000 KRW)