

## Organization

### Steering Committee

**Chairman:**

Prof. Yong-Soo Jang, *Pukyong National University, Korea*

**Vice chairman:**

Prof. Kohji Iida, *Hokkaido University, Japan*

Prof. Hyeon-Ok Shin, *Pukyong National University, Korea*

**Member:**

Prof. Doo-Jin Hwang, *Chonnam National University, Korea*

Prof. Yong Tang, *Dalian Ocean University, China*

Mr. Raja Bidin Raja Hassan, *Marine Fishery Resources Development & Management Department, Malaysia*

Prof. Akira Hamano, *National fisheries University, Japan*

### Local Organizing Committee

**Chairman:**

Prof. Hyeon-Ok Shin, *Pukyong National University, Korea*

**Vice chairman:**

Prof. Jang-Young Ahn, *Jeju National University, Korea*

Prof. Doo-Jin Hwang, *Chonnam National University, Korea*

Dr. Sung-Uk Park, *National Fisheries Research & Development Institute, Korea*

**Member:**

Dr. Donhyug Kang, *Korea Institute of Ocean Science & Technology, Korea*

Dr. Kyunghoon Lee, *National Fisheries Research & Development Institute, Korea*

Dr. Yoo-Won Lee, *Korea Institute of Maritime & Fisheries Technology, Korea*

Prof. Myounghee Kang, *Gyeongsang National University, Korea*

### Meeting Secretariat

**Meeting secretariat (Director General):**

Prof. Doo-Jin Hwang

*College of Fisheries and Ocean Science, Chonnam National University,  
50 Daehak-ro, Yeosu, Jeonnam, Korea*

*Tel: +82 61 659 7126*

*Fax: +82 61 659 7219*

*e-mail: djhwang@chonnam.ac.kr*



## General Information

### About Busan

**Busan**, a bustling city of approximately 3.6 million residents, is located on the southeastern tip of the Korean peninsula. The size of Busan is 767.35km<sup>2</sup> which is 0.8% of the whole land of the Korean Peninsula. The natural environment of Busan is a perfect example of harmony between mountains, rivers and sea. Its geography includes a coastline with superb beaches and scenic cliffs, mountains which provide excellent hiking and extraordinary views, and hot springs scattered throughout the city. Busan enjoys four distinct seasons and a temperate climate that never gets too hot or too cold.

Busan is the second largest city in Korea. Its deep harbor and gentle tides have allowed it to grow into the largest container handling port in the country and the fifth largest in the world. The city's natural endowments and rich history have resulted in Busan's increasing reputation as a world class city of tourism and culture and it is also becoming renowned as an international convention destination

### Registration Desk

The Registration Desk will be located on the **4<sup>th</sup> floor at the VISTAS Hotel, Pukyong National University** and will be open at the following times:

**Monday 26 November** 09:00 – 09:30

**Tuesday 27 November** 08:30 – 09:00

### Social Functions

#### Lunch

Venue: LoungeO, 1<sup>st</sup> floor at Dongwon Jangbogo-Gwan, Pukyong National University

Time: Monday 12:00 – 13:30

Tuesday 12:00 – 14:00

#### Welcoming reception

Venue: 3<sup>rd</sup> floor at VISTAS Hotel, Pukyong National University

Time: 18:00 – 20:00

#### Banquet

Venue: 3<sup>rd</sup> floor at VISTAS Hotel, Pukyong National University

Time: 18:30 – 20:30

**How to get in VISTAS Hotel, Pukyong National University (PKNU)**

*From Incheon International Airport to Busan:*

Incheon airport → Gimpo airport → Gimhae airport

*From Gimhae International Airport to PKNU:*

➤ by subway

- 1) Walk to Gimhae Airport Station from the exit of airport about 2 min (140m)
- 2) Busan-Gimhae light rail transit at Gimhae Airport Station  
(subway towards Sa-Sang Station, KRW 1,300)
- 3) Walk to Sa-Sang Station of Subway Line 2 about 3 min
- 4) Transfer Subway Line 2 at Sa-Sang Station
- 5) Subway Line 2 (subway towards Jangsan Station, KRW 1,200)
- 6) Walk to PKNU about 8 min (500m)

➤ tax: about KRW 20,000 (about USD 20)



VISTAS Hotel



Pukyong National University

## PROGRAM

### Monday 26 November

**09:00-09:30 Registration**

#### Opening Session

**09:30-10:00**

Chair: Hyeon-Ok Shin (Pukyung National University)

1. Introduction of Guests and Leaders

*Hyeon-Ok Shin, Chairman of Local Organizing Committee of AFAS 2012*

2. Welcome Address

*Young-Soo Jang, Chairman of Steering Committee of AFAS2012*

3. Welcome Address

*Woo Jeung Choi, National Fisheries Research & Development Institute*

4. Welcome Address

*Hyeong Il Shin, Chairman Emeritus of AFAS 2012*

5. Chairman's Address

*Kohji Iida, Chairman of Asian Fisheries Acoustics Society*

#### Session I. Sustainable Fisheries in Asia

Chair: Kohji Iida (Hokkaido University)

10:00-10:40

Comparison of anchovy abundances estimated by trawls, egg production methods and acoustic surveys

*Sukgeun Jung (Jeju National University, Korea)*

10:40-11:20

Applications of broadband acoustics in fisheries

*Tomonari Aakamatsu (National Research Institute of Fisheries Engineering, Japan)*

**12:00-13:30 Lunch**

**13:30-14:30 General Meeting of Asian Fisheries Acoustics Society, FY2012**

#### Session II. Advanced Technologies in Fisheries Acoustics

Chair: Yasushi Nishimori, Hyeon-Ok Shin (chair of SGAT)

14:30-14:45

**AT-1**

Verification of broadband echo processing to determine volume backscattering strength spectra

*Kazuo Amakasu\*, Yoshiaki Fukuda and Tohru Mukai (Tokyo University of Marine Science and Technology, Japan)*

14:45-15:00	<b>AT-2</b> Developments of a novel broadband split-beam echo sounder <i>Yong Wang*</i> , <i>Shinji Ogawa</i> , <i>Yasushi Nishimori</i> , <i>Masahiko Furusawa</i> , <i>Masanori Ito</i> , <i>Ikuo Matsuo</i> , <i>Tomohito Imaizumi</i> and <i>Tomonari Aakamatsu</i> ( <i>Furuno Electric Co., Ltd, Japan</i> )
15:00-15:15	<b>AT-3</b> Application of cepstral analysis to discrimination of fish species <i>Ikuo Matsuo*</i> and <i>Masanori Ito</i> ( <i>Tohoku Gakuin University, Japan</i> )
15:15-15:30	<b>AT-4</b> The detection and assessment of fishery resources using DIDSON imaging sonar data - a case study of dishui Lake, Shanghai, China <i>Wei Shen*</i> , <i>Jun Han</i> and <i>Jin Zhang</i> ( <i>Shanghai Ocean University, China</i> )
15:30-15:45	Discussion of Session II
<b>15:45-16:00 Coffee Break</b>	
<b>Session III. Theoretical Research and Target Strength of Marine Animals</b>	
Chair: Kouichi Sawada, Kyung-Hoon Lee (chair of SGTS)	
16:00-16:15	<b>TS-1</b> Ex situ target strength measurements of ice krill ( <i>Euphausia crystallorophias</i> ), Antarctic Ocean <i>Hyoung Sul La*</i> , <i>Hyungbeen Lee</i> , <i>Donhyug Kang</i> , <i>SangHoon Lee</i> , and <i>Hyoung Chul Shin</i> ( <i>Korea Institute of Ocean Science &amp; Technology (KIOST), Korea</i> )
16:15-16:45	<b>TS-2</b> Study on the linearity of the target strength function between juvenile and adult Japanese anchovy ( <i>E. japonicus</i> ) <i>Hyungbeen Lee*</i> , <i>Donhyug Kang</i> , <i>Sungho Cho</i> , <i>Mira Ki</i> and <i>Yangjae Im</i> ( <i>Korea Institute of Ocean Science &amp; Technology (KIOST), Korea</i> )
16:45-17:00	<b>TS-3</b> Target strength measurement and abundance estimation of bighead carp ( <i>Aristichthys nobilis</i> ) in Shih-Men Reservoir, Northern Taiwan <i>Yu-Shan Hung*</i> , <i>Hsueh-Jung Lu</i> , <i>Kuo-Wei Yen</i> and <i>Ta-Jen Chu</i> ( <i>National Taiwan Ocean University, Taiwan</i> )
17:00-17:15	Discussion of Session III
<b>17:15-18:00 Poster Session</b>	
<b>18:00 Welcome Reception</b>	

**Tuesday 27 November**
**Session IV. Methodologies and Evaluation of Acoustic Survey**

Chair: Kazushi Miyashita, Doo-Jin Hwang (chair of SGES)

- 09:00-09:15      **ES-1**  
 Acoustic characteristics of various fish schools based on trawls conducted surrounding South Korea  
*Myounghee Kang\* and Seok-Gwan Choi (Gyeongsang National University, Korea)*
- 09:15-09:30      **ES-2**  
 Catch potential estimation using acoustic data obtained from routine surveys in the coastal waters of northern Taiwan  
*Hsueh-Jung Lu\*, Yu-Shan Hung, Hsin-Hung Huang, Chi-Chang Lai and Long-Jing Wu (National Taiwan Ocean University, Taiwan)*
- 09:30-09:45      **ES-3**  
 Temporal and spatial relationship between *Scomber japonicus* and *Trachurus japonicus* fishery resources and marine environmental factors off northeastern Taiwan  
*Mei-Hui Lee\*, Jen-Ming Liu, Yiing Jang Yang and Sen Jan (National Kaohsiung Marine University, Taiwan)*
- 09:45-10:00      **ES-4**  
 Establishing an acoustic volume backscattering strength databank around Taiwan for fisheries research  
*Yiing Jang Yang\*, Mei-Hui Lee, and Jen-Ming Liu (Naval Academy, Taiwan)*

**10:00-10:15      Coffee Break**

Chair: Rajabidin Hassan, Don Hyug Kang (chair of SGES)

- 10:15-10:30      **ES-5**  
 Spatial-temporal distribution of allochthonous species blood parrot cichlid (*Cichlasoma citrinellum x Cichlasoma synspilum*) in Sun Moon Lake, Nantaou County, Taiwan  
*Jen-Ming Liu\*, His-Chi Ou, Yiing Jang Yang, and Mei-Hui Lee (National Kaohsiung Marine University, Taiwan)*
- 10:30-10:45      **ES-6**  
 The diel acoustical characteristics of sound scattering layer in the I-lan Bay off northeastern Taiwan  
*Szu-Chia Kao\* and Ming-An Lee (National Taiwan Ocean University, Taiwan)*

10:45-11:00 **ES-7**  
 Estimation of Japanese sandeel (*Ammodytes personatus*) distribution in the northern coast of Hokkaido, Japan, using a quantitative echo sounder  
*Safruddin\**, *Kazuhiko Itaya*, *Keiji Maeda*, *Koki Abe*, *Ryuichi Matsukura*, *Hiroki Yasuma* and *Kazushi Miyashita* (Hokkaido University, Japan)

11:00-11:15 **ES-8**  
 Carrying knowledge into new fields Trial of acoustic surveys in coastal shallow area  
*Yoshinori Miyamoto\**, *Soichiro Matushita*, *Keiichi Uchida*, *Yuttana Theparoonart*, *Monton Anongponyoskun*, *Satoshi Ishikawa*, *Yap Minlee* and *Toyoki Sasakura* (Tokyo University of Marine Science and Technology, Japan)

**11:15-11:30 Coffee Break**

Chair: Hsueh-Jung Lu, Yoo-Won Lee (chair of SGES)

11:30-11:45 **ES-9**  
 Acoustic survey of fisheries resource in dahuofang reservoir  
*Yong Tang\**, *Danqing Lin*, *Jianfu Sun*, *Jiuqi Li* and *Zan Zhang* (Dalian Ocean University, China)

11:45-12:00 **ES-10**  
 Identification of zooplankton using two frequency difference methods and their spatial distribution after spring blooms around Funka Bay, Hokkaido Japan  
*Eunho Kim\**, *Tohru Mukai* and *Kohji Iida* (Hokkaido University, Japan)

12:00-12:15 **ES-11**  
 Behavior analysis of fish upon time-change around artificial reefs using hydroacoustic technique  
*Eun-A Yoon\**, *Doo-Jin Hwang*, *Ayumi Takano* and *Wan-Ki Kim* (Chonnam National University)

12:15-12:30 Discussion of Session IV

**12:30-14:00 Lunch**

**Session V. Broad Aspect of Underwater Acoustics for Fisheries**

Chair: Yoshinori Miyamoto, Myoung Hee Kang (chair of SGAA)

14:00-14:15 **AA-1**  
 Activity patterns of black rockfish *Sebastes schlegeli* in the marine ranching area from acoustic telemetry.  
*Kyoungmi Kang\** and *Hyeon-Ok Shin* (Pukyong National University, Korea)

- 14:15-14:30      **AA-2**  
 Diel swimming pattern of brown trout in a dam by acoustic tracking  
*Keiichi Yamamoto\**, *Yoko Mitani*, *Kazushi Miyashita (Hokkaido University, Japan)*
- 14:30-14:45      **AA-3**  
 Monitoring seasonal variations in a seagrass bed by an acoustics method  
*Shiori Sonoki\**, *Yuka Morita*, *Jun Syoji*, and *Kazushi Miyashita (Hokkaido University, Japan)*
- 14:45-15:00      **AA-4**  
 Behavior characteristics of pacific cod during winter in Jinhae Bay, Korea  
*Hyeon-Ok Shin\**, *Kyoungmi Kang*, *Bo-Gyu Hwang* and *Anthony Appiah (Pukyong National University, Korea)*
- 15:00-15:15      **AA-5**  
 Position accuracy of ultrasonic biotelemetry system using cross bearing  
*Kohei Hasegawa\**, *Yoshinori Miyamoto*, *Keiichi Uchida*, *Toshiharu Kakihara (Tokyo University of Marine Science and Technology, Japan)*

**15:15-15:30      Coffee Break**

Chair: Yong Tang, Bo-Kyu Hwang (chair of SGAA)

- 15:30-15:45      **AA-6**  
 Observation of tuna movements around the FADs by using passive and active acoustic methods  
*T. Imaizumi\**, *T. Oshima*, *K. Yokota*, *H. Iga*, *Y. Takao*, *I. Fusejima*, *S. Hasegawa*, *Y Wang*, *M Ito*, *I Matsuo* and *T Akamatsu (National Research Institute of Fisheries Engineering, Fisheries Research Agency, Japan)*
- 15:45-16:00      **AA-7**  
 Spatial estimation of the kelp forest (*Laminaria* spp.) distributions in coastal waters of Aomori, Japan, using acoustic method  
*Huamei Shao\**, *Yuka Morita*, *Shiori Sponoki*, *Kenji Minami*, *Kazushi Miyashita (Hokkaido University, Japan)*
- 16:00-16:15      **AA-8**  
 Correlation ASIC applied to underwater acoustics  
*Toyoki Sasakura\**, *Naoto Miyamoto*, *Yoshinori Miyamoto* and *Yohei Matsumoto (Katsumi Ito, Fusion Incorporation, Japan)*
- 16:15-16:30      **AA-9**  
 Improvement of the dolphin speaker  
*Yuka Mishima\**, *Yoshinori Miyamoto*, *Toyoki Sasakura (Tokyo University of Marine Science and Technology, Japan)*

16:30-16:45	Discussion of Session V
<b>16:45-17:00</b>	<b>Coffee Break</b>
<b>17:00-17:30</b>	<b>General Discussion</b>
<b>17:30-18:00</b>	<b>Closing Session</b>
<b>18:00</b>	<b>Banquet</b>

### Poster Session

- PS-1** Target strength characteristics measurement of Japanese butterfish (*Psenopsis anomala*) for further stock assessment in southwestern Taiwan  
*Chi-Chang Lai, Hsin-Hung Huang\**, Hsing-Han Huang, Long-Jing Wu and Hsueh-Jung Lu  
 (Department of Environmental Biology and Fishery Science, National Taiwan Ocean University, Keelung, Taiwan)
- PS-2** The fish identification of Pearlside (*Maurollicus japonicus*) using multi-frequency quantitative echo-sounder  
*Masahiro Hamana\** and Akira Hamano (National Fisheries University, Japan)
- PS-3** Verification and application of Target Strength for Japanese anchovy (*Engraulis japonicas*) by Kirchhoff ray mode model  
*Kyounghoon Lee\**, Bo-Kyu Hwang, Seong-Wook Park, Yoo-Won Lee and Dae-Jae Lee  
 (National Fisheries Research & Development Institute (NFRDI), Korea)
- PS-4** Seasonal variation of the Sound scattering Layer (SSL) around Yellow Sea Bottom Cold Water (YABCW) in Korea region, 2011-2012  
*Hyunbeen Lee\** and Donhyug Kang (Korea Institute of Ocean Science & Technology (KIOST), Korea)
- PS-5** Acoustical backscattering characteristics and density estimation of krill (*Euphausia pacifica*) using a 2 frequency difference method  
*Kyounghoon Lee\**, Youngmin Choi, Yong-Su Yang, Jeong-Ho Park and Seok-Hyun Yoon  
 (National Fisheries Research & Development Institute (NFRDI), Korea)
- PS-6** Long-term evaluation of harmful algal bloom's real time acoustic detection system installed on the buoy  
*Seonho Lim\**, Donhyug Kang, Hyunbeen Lee and Youn-ho Lee (Maritime R&D Center, Korea)