2nd Ocean Surface Waves and Wave-Coupled Processes Workshop

10-12 October 2017

Qingdao, China

Meeting Manual

Organized by

Australia-China Centre for Maritime Engineering

First Institute of Oceanography (FIO), SOA, China

The University of Melbourne, Australia

Hosted by

First Institute of Oceanography (FIO), SOA, China

1. Meeting Information

Meeting Venue:

Yan-Xi-Tang in 3rd Floor (三楼燕喜堂)

Blue Horizon Hotel (No. 9-2 Miao-ling Road, Laoshan District, Qingdao, China)

Registration Desk:

October 09 14:00-18:00

Lobby, Blue Horizon Hotel, Qingdao, China

October 10 08:30-12:00

Yan-Xi-Tang in 3rd Floor, Blue Horizon Hotel

Working language

The meeting will be conducted in English.

Internet Use:

Free internet access both meeting room and hotel room. All Google applications (Gmail, Google Drive, etc.), social media tools (Facebook, Twitter, Instagram) and application like Dropbox, are not accessible in China without a VPN (Virtual Private Network). Short-term subscriptions for VPNs can be found online for little or no cost, but we advise you to download them before coming to China.

Coffee Break:

Coffee, tea and water will be available at the scheduled breaks (twice each day).

2. Program

October 10-12, 2017

Blue Horizon Hotel, Qingdao, China

(*Draft*)

Day 0 (October 09, Monday)	
14:00-18:00	Registration
18:00-20:00	Welcome banquet
Day 1 (October 10, Tuesday)	
	Opening Remarks *Chair: Zhenya Song*
08:30-08:50	*Opening remarks from Co-Director of ACCME Prof. Alexander V. Babanin* *Welcome remarks from Co-Director of ACCME Prof. Fangli Qiao*
08:50-09:20	**Invited:** Analytical Estimate of Mixing Coefficients of Turbulence Generated by Waves, Including Sea waves and Internal ones in Circulation Model *Yeli Yuan (First Institute of Oceanography, SOA, China)*
09:20-09:40	Observed Extreme Typhoon Waves and their Wind-wave Correlations *Dong-Jiing Doong (National Cheng Kung University, Taiwan)*
09:40-10:10	**Coffee break and group photo**
	Session I: Coupled model development with surface wave *Chair: Fangli Qiao*
10:10-10:40	**Invited:** Observation-Based Physics in WAVEWATCH-III and SWAN *Alexander V. Babanin (University of Melbourne, Australia)*
10:40-11:00	Extended verification of the wave boundary layer model *Vlad Polnikov (Obukhov Institute of Atmospheric Physics of RAS, Russia)*
11:00-11:20	Effects of surface waves on submesoscale coherent structures on aninner continental shelf *Yusuke Uchiyama (Kobe University, Japan)*
11:20-11:40	Modelling of Extreme Freshwater Outflow and Downscaling of Coastal Current Data in Western Pacific Japanese Coast *Josko Trosel (Kyoto University, Japan)*
11:40-12:00	The Operational Extreme Wave Forecasting in Taiwan Waters by WAVEWATCH-III *Yangming Fan (National Cheng Kung University, Taiwan)*
12:00-12:20	Spectral modelling of ice-induced wave decay: implementation of anew viscoelastic theory in WAVEWATCH III *Qingxiang Liu (University of Melbourne, Australia)*
12:20-14:00	**Lunch time**
	Session I: Coupled model development with surface wave *Chair: Alexander V. Babanin*
14:00-14:30	**Invited:**The crucial importance of the surface wave in ocean and climate system *Fangli Qiao (First Institute of Oceanography, SOA, China)*

14:30-14:50	Wind and Wave Climate: Design Sea State from Ensemble Forecasts *Alberto Meucci (University of Melbourne, Australia)*
14:50-15:10	The development of regional atmosphere-ocean-wave coupled model for typhoon *Biao Zhao (First Institute of Oceanography, SOA, China)*
15:10-15:30	A Numerical Investigation of the Effect of Wave-induced Mixing on an Idealized Tropical Cyclone with an Air-Sea-Wave Coupled Modeling System *Wenqin Zhang (Ocean University of China, China)*
15:30-15:50	Coupling Spectral and Phase-Resolving Wave Model for Forecasting of Extreme Waves in Wind Seas *C. Kirezci (University of Melbourne, Australia)*
15:50-16:10	**Coffee break**
	Chair: Vlad Polnikov
16:10-16:30	The impact of waves on sediment transport and its application in the coupled mo del over a rippled bed *Jing Lu (First Institute of Oceanography, SOA, China)*
16:30-16:50	The global carbon cycle simulation of FIO-ESM *Yin Bao (First Institute of Oceanography, SOA, China)*
16:50-17:10	Numerical simulation and analysis of wave in the Southern California Bight *Yuhan Cao (Nanjing University of Information and Science Technology, China)*
17:10-17:30	Effect of the non-breaking surface wave induced vertical mixing on winter mixed layer depth in subtropical regions *Siyu Chen (First Institute of Oceanography, SOA, China)*
17:30-17:50	Seasonal prediction skills for North Pacific SST and precipitation in FIO-ESM *Yiding Zhao (First Institute of Oceanography, SOA, China)*
Day Close	
Day 2 (October 11, Wednesday)	
	Session II: Theory and observation of surface wave *Chair: Shuwen Zhang*
08:30-09:00	**Invited:**A Review of the Wave Field Generated by Tropical Cyclones *Ian Young (University of Melbourne, Australia)*
09:00-09:20	Determination of Oceanic Extremes using a Spatial Ensemble of Satellite Data *Alicia Takbash (University of Melbourne, Australia)*
09:20-09:40	Population balance approach for predicting bubble size evolution around a submarine *S. Vahaji (RMIT University, Australia)*
09:40-10:00	Shallow water wave characteristics and processes analysis based on winter and summer observations in Heini Bay, western Yellow Sea *Wei Zhao (Tianjin University, China)*
10:00-10:20	**Coffee break**
	Chair: Ian Young
10:20-10:40	Observations and modeling of typhoon-waves in South China Sea *Hailun He (Second Institute of Oceanography, SOA, China)*
10:40-11:00	Rollover distribution of apparent wave attenuation coefficient in ice covered seas *Jingkai Li (Ocean University of China, China)*

11:00-11:20	The observation and analysis on the deviation of wind stress direction from wind direction *Sheng Chen (First Institute of Oceanography, SOA, China)*
11:20-11:40	Event-based Validation of Swell Arrival Time: Preliminary Results and Potential Reasons *Haoyu Jiang (China University of Geosciences China)*
11:40-12:00	The effects of sea surface waves and ocean spray on the marine atmospheric boundary layer *Ting Zhang (Zhejiang Ocean University, China)*
12:00-14:00	**Lunch time**
	Session III: Coupled model development with surface wave *Chair: Qi Shu*
14:00-14:30	**Invited:** The role of wave breaking in air-sea exchange and upper ocean mixing *Shuwen Zhang (GuangDong Ocean University, China)*
14:30-14:50	Comprehensive Analysis And Assessment Of Extreme Wave Heights In Indian Territorial Waters *Sannasiraj S. A.(Indian Institute of Technology Madras, India)*
14:50-15:10	Effect of parameterization of Air-Sea Exchanges for Typhoon *Haixia Shan (Nanjing University of Information and Science Technology, China)*
15:10-15:30	Spatial point process model for breaking waves in moderate and rough sea *Shuhe Lei (Ocean University of China, China)*
15:30-15:50	**Coffee break**
	Chair: Sannasiraj S.A.
15:50-16:10	The influence of swell on atmosphere boundary layer under non-neutral condition *Zhongshui Zou (HuaiHai Institute of Technology, China)*
16:10-16:30	The impact of wave breaking on near-surface turbulence and air-sea gas fluxes *Shuiqing Li (Institute of Oceanology, Chinese Academy of Sciences, China)*
16:30-16:50	Investigation of sea spray generation function based on the whitecap coverage fraction *Jian Shi (National University of Defense Technology, China)*
16:50-17:10	The Influence of the Kuroshio On the Wave Distribution in the East China Sea *Jin Wang (Nanjing University of Information and Science Technology, China)*
17:10-17:30	Impacts Of Global Sea Level Variations And Resulting Inundation Exposure *Ebru Demirci (University of Melbourne, Australia)*
Day Close	
Day 3 (October 12, Thursday)	
	Session IV: Laboratory experiments of surface wave *Chair: Hongyu Ma*
08:30-09:00	**Invited**: Raining on the waves: what a shower can reveal about wind wave generation *Luigi Cavaleri (Institute of Marine Sciences, ISMAR-CNR, Italy)*
09:00-09:20	On the shape and likelihood of oceanic rogue waves *Alvise Benetazzo (Institute of Marine Sciences, ISMAR-CNR, Italy)*
09:20-09:40	Laboratory Study on Air-sea CO_2 Exchange during wave breaking *Shuo Li (University of Melbourne, Australia)*

09:40-10:00	An Experimental Study On Surface Wave Modulation Due To Visco-Elastic Boundaries: A Three-Layer System *Dharma Sree (Nanyang Technological University, Singapore)*
10:00-10:20	**Coffee break**
	Chair: Luigi Cavaleri
10:20-10:40	Statistical properties of wind generated surface gravity waves: Influence of wind shear stresses *J. H. Lee (University of Melbourne, Australia)*
10:40-11:00	Study on wave influence to the near shore turbulence by measured spectrum *Renfu Fan (Tianjin University, China)*
11:00-11:20	Experimental study on wave turbulence interaction in wave tank *Hongyu Ma (First Institute of Oceanography, SOA, China)*
11:20-11:40	Observation of Nonlinear Internal Waves in Lufeng *Shumin Jiang (First Institute of Oceanography, SOA, China)*
11:40-12:00	Wind and wave induced water particle motion: An experimental model in a circular wave flume *Cappa A. (University of Melbourne, Australia)*
12:00-12:30	Summary and discussion: *Chaired by Alexander V. Babanin and Fangli Qiao*
12:30-14:00	**Lunch time**
14:00-17:30	Scientific visit to wind-wave-current tank and QNLM
Day Close	

3. About the Meeting Venue

The Blue Horizon Hotel is located at 9-2 Miao-Ling Road, in Laoshan district, next to the Qingdao International Convention Center. The Blue Horizon Hotel neighbors Shi-Lao-Ren beach and many shopping centers.

4. Transportation

From Qingdao Liuting International Airport to Hotel

Qingdao Liuting International Airport is the main international airport in Qingdao. It is about 27 kilometers from the airport to the Blue Horizon Hotel. You can choose either taxis or shuttle buses.

By taxi: There are two kinds of taxi in Qingdao: normal taxi and limousines taxi. It will cost you about 70 RMB from the airport to the Blue Horizon Hotel by normal taxi (about 90 RMB for limousines). The rate are slightly higher after 11pm, about 100 RMB for normal taxi and 130 RMB for limousines. Please follow the taxi signs in the

airport and do not take cars outside the airport because they are not licensed which may cost you much more money than the licensed taxi.

By shuttle bus: There are five shuttle lines operating between Qingdao Liuting International Airport and downtown. You can take Line 3 (No. 703) which will cost you 20 RMB and get off at the Qingdao International Convention Center station (会展中心站), then walk 780m to arrive the hotel. Please notice that the bus departs hourly and the bus departs once full at peak hours.

More information can be found on the website: https://www.travelchinaguide.com/cityguides/shandong/qingdao/getting-around.htm.

From Railway Station to Hotel

There are two railway stations in Qingdao: Qingdao Railway Station and Qingdao North Railway Station. Qingdao Railway Station is about 20 kilometers to the Blue Horizon Hotel. Qingdao North Railway Station is about 15 kilometers to the Blue Horizon Hotel. You can take taxis or public buses.

By taxi: It will cost you about 40 RMB if you take a taxi from the Qingdao North Railway Station to the Blue Horizon Hotel. And it will cost about 50 RMB from the Qingdao Railway Station to the Blue Horizon Hotel.

By public bus: You can take bus No. 501 from Qingdao Railway Station and get off at Shenzhen Road and Xian-Xia-ling Road station (深圳路仙霞岭路), and walk to the hotel.

5. Accommodation

Accommodation is arranged at Blue Horizon Hotel.

Room Prize:

- 488 CNY per night for one-king-size-bed room
- 468 CNY per night for two-queen-size-bed room

The payment accepts cash and credit card (both for VISA and MASTERCASD).

6. Weather in Qingdao

October is very comfortable month with average daytime/nighttime temperatures (20℃/13℃). You can wear a T-shirt or a dress during the daylight. But you need to prepare a coat because it will be a little cold during the night with the sea wind.

7. Electricity

Voltage is 220 and most outlets accept US and European style plugs.

8. Contact us

Dr. Zhenya Song

E-mail: songroy@fio.org.cn

Tel: +86-532-88965937

Dr. Yajuan Song

E-mail: songyj@fio.org.cn

Tel: +86-13370822057

Miss. Pan Han

E-mail: hanpan013727@fio.org.cn

Tel: +86-13206447146